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Farmers Reject Soil Bank, But Fertilizer Market Will Remain

Capital Observers See Need for Plant Food to Cut Production Costs

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON, D.C. — Defeat of the soil bank referendum for corn for the 1957 crop will be meaningless as far as total fertilizer use is concerned, according to USDA officials and prominent trade authorities here.

Last week, the commercial corn belt voted on a two choice proposal, one of which would have made available the soil bank acreage reserve program for the commercial corn belt with a 51 million base acreage allotment, and the other would have provided a 37 million acreage allotment as a condition for price support.

The corn belt farmers failed to accept either proposal, by a two-thirds vote. Consequently, the corn price support program under the provisions of the soil bank act of 1956, now puts the 1957 commercial corn crop at the 37 million acre allotment if price support is to be available at the level of $1.36 per bushel.

So far as the soil bank is concerned, the acreage reserve program is dead. This phase of the soil bank would have paid corn belt farmers

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Soil Bank Payments

WASHINGTON — Payments to farmers participating in the 1956 acreage reserve program of the soil bank totaled $233,487,151.64 in 45 states and Puerto Rico reporting through Nov. 30, 1956, the U.S. Department of Agriculture has announced.

Sales of Pesticides to Reach New High in 1956, NAC Says

WASHINGTON — Pesticide chemical sales in 1956 will reach an estimated $250 million at the basic producers' level, a new all-time high for the industry, according to the National Agricultural Chemicals Assn. This is 25% higher than the 1955 producers' sales of $200 million.

Sales during the year were boosted by a variety of developments, including a series of heavy insect infestations, particularly in the south and southwest, and a greater use of pesticide chemicals in public health programs throughout the world, NAC said.

The heaviest insect outbreaks were the Mediterranean fruit fly which threatened the citrus industry in Florida, the spotted alfalfa aphid in the southwest, and heavier than usual infestations of the boll weevil in the south and the grasshopper in the west.

NAC said that markets for pesticides expanded in four different areas during the year: 1) the farm market where more farmers are using pest control chemicals to reduce per unit costs of production; 2) the home garden market where a rapidly increasing number of suburbanites are using these products to grow healthy plants and weed-free lawns; 3) increased use of insecticides in public health programs to wipe out certain diseases through the elimination of disease-carrying insects; 4) increasing use of chemicals to control weeds, brush, insects, and turf diseases along roadsides of the nation's highways.

The world-wide battle against crippling diseases, such as malaria, which are transmitted by disease-carrying insects, contributed to the increased use of insecticides during the year. This struggle is being spurred by the World Health Organization's campaign to "destroy disease-carrying insects," being carried on primarily in Latin America, Africa and Asia. Greater use of pesticides also is being made in public health programs in

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USDA Reports Progress in Tests With Systemic Insecticides on Cottonseed

BIRMINGHAM, ALA. — Experiments with systemic insecticides as a seed treatment to protect cotton against early-season pests are progressing successfully, the U.S. Department of Agriculture has announced.

Results of 1956 tests of the systemics in 12 southern states were reported at the National Cotton Council's Beltwide Cotton Production Conference here Dec. 14, by K. P. Ewing of USDA's Agricultural Research Service. Mr. Ewing commended State and Federal entomologists and industry for their cooperative efforts in this research.

Armed with a new systemic product, in addition to one that proved successful in field trials last year, USDA and state entomologists teamed with industry to determine the most effective and economical means of applying these insecticides.

The chemicals used effectively in experiments this year were Thimet, formerly known as Cyanamid 3911, which was tested extensively in 1955, and a new phosphorus compound, "Bayer 19639," which USDA says proved equally successful this year.

Systemic insecticides, once having entered the sap stream of a cotton plant retain for several weeks their ability to control various insects and mites which feed on the plant.

The most effective method of application, among 4 methods tried experimentally, continued to be the treatment of cottonseed, before planting, with carbon dust mixed with 50% of insecticide. Other methods, none of which had any advantage over the seed treatment, were: application of systemics to cotton plant foliage by spraying; soaking, spraying, and pelleting the seed; and applying the chemicals in dust, spray, or granules to the soil as a side dressing at planting time or later.

Used for seed treatment, both products gave generally excellent control

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Kentucky Meeting Presents Pest Control Information For Corn, Tobacco, Berries

LEXINGTON, KY.—The subject of mixing fertilizers with insecticides was reviewed at a conference at the Kentucky Agricultural Experiment Station at Lexington, Dec. 7. In attendance were field men and other representatives of fertilizer and insecticide companies and members of the faculties of the departments of entomology and botany, agronomy and feeds and fertilizers of the University of Kentucky.

Special attention was given to corn, strawberries and tobacco, the three major crops in Kentucky. Materials and rates of application of both fertilizers and insecticides were discussed. Recommendations for 1957 will be about the same as for this year, it was reported.

More extensive use of fertilizers and better control of insects will give the South a larger share of the nation's corn production, speakers noted. (Kentucky now is 11th in corn production.) Corn insects to be controlled include rootworm, seed maggot, ants that spread aphids, white grubs and wireworms.

Recommended insecticides for corn pests were listed as aldrin or hep-

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INSIDE YOU'LL FIND

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Coastal Chemical To Build Phosphate Fertilizer Plant

LOS ANGELES—The Fluor Corp., Ltd., Los Angeles engineering and construction firm, has been awarded a contract by Coastal Chemical Corp. to design, engineer and construct a phosphate fertilizer plant at Pascagoula, Miss.

This installation will be Mississippi's first completely integrated phosphate fertilizer plant utilizing basic materials, namely phosphate rock, sulfur, potash and ammonia, Fluor said.

It will include a 75 ton-per-day phosphoric acid unit and a 350 ton-per-day granulated ammonium phosphate fertilizer unit. The plant will utilize the St. Gobain phosphate fertilizer process, developed in France.

Cost of the project is approximately $2,000,000. Construction will begin next April, and completion is scheduled in January, 1958.

Cambodia Receives $300,000 ICA Authorization

WASHINGTON — International Cooperation Administration has announced a $300,000 authorization to Cambodia for phosphates and other fertilizer materials. Contract period is from Dec. 21 to next April 30, and terminal delivery date is next June 30. Source is worldwide.

ICA said that any offer that would accept surplus agricultural commodities from Commodity Credit Corp. as full payment would have preference over any other offer where price and other terms were equal.

Fertilization Is Best Practice To Insure Farmers a Profit, North Dakota Conference Told

FARGO—No other crop production practice being recommended for North Dakota in 1957 can beat fertilizer in guaranteeing the farmer a profitable return for his crop producing efforts.

This statement was made by a North Dakota Agricultural College speaker in addressing the more than 225 fertilizer dealers and industry representatives attending the 8th annual fertilizer dealers conference in Fargo Dec. 4.

The speaker was L. A. Jensen, agronomist of the North Dakota Extension Service, who also pointed out that use of fertilizer, in North Dakota particularly phosphate, when the need is indicated by an adequate soil test, is a major crop practice being advocated in recommendations outlined by the Agricultural College for the guidance of farmers in 1957.

Mr. Jensen emphasized strongly the importance of accompanying fertilization with a strong effort in good soil management, weed control practices, quality seed of adapted varieties and selection of crops that will respond most profitably to the application of fertilizers.

The dealers were reminded that farming as practiced in North Dakota is big business, in that the average farm in the state has an investment of $50,000 and up in land and equipment, even when the value of farm equipment is estimated on the basis of half its original cost.

In North Dakota dealers in fertilizer are being depended on by the college to carry the message of research and experience to the farm as to the certainty of profit to be derived from the sensible use of fertilizers.

Farms in North Dakota in recent years have declined in number but have increased in size—a shift that has meant fewer customers for the fertilizer dealer—but better customers.

Progress in setting the scene for a bigger fertilizer market in North Dakota was reported by Armand Bauer, supervisor of the soil testing laboratory located at the Agricultural College in Fargo. Improved laboratory facilities and more personnel to handle the soil samples have stepped up the capacity of the laboratory to service farms, and fees for doing the testing have been reduced to $1 from the previous fee of $1.50.

More than 2,000 samples were received this fall, Mr. Bauer said, even though the laboratory was not completed until a few weeks ago.

Information was presented to the dealers by Mr. Bauer on the testing procedure being followed. Samples of the forms developed to report the soil test findings, along with fertilizer recommendations for specific crops which each farmer plans to grow, were displayed and explained.

The recommendations for cropping procedures given to the farmer whose samples of soil have been analyzed was described as the most critically useful phase of the soil testing service.

Advantages and disadvantages of liquid applications were discussed by Dr. J. C. Zubriski, associate professor of soils, North Dakota Agricultural College. His conclusion is that the most promising place in North Dakota for liquid fertilizers is for use in "starter" solutions. He said yield responses in North Dakota trials have been found equal for nitrogen and phosphorus applied either in liquid or solid forms.

Mr. Zubriski told the dealers that the best results in fertilization with sprays applied to the foliage of plants have been with horticultural plants. He considers that foliar sprays can be used to implement soil applications and thinks that foliar fertilizer sprays may be one of the better ways of applying minor elements.

In discussing the practical farm aspects of fertilizers, V. L. Weiser, soils specialist of the college Extension Service, said the greatest opportunities for the farmer to profit is by application of fertilizer to small grains, particularly wheat, which is his state's best income producer. Phosphate is the main need, although nitrogen and potash in row applications on sandy soils, can be profitable, he said.

The extension soils specialist sees farmers making a common mistake in using recommendations developed for summerfallow on nonfallow crop lands. Better moisture conditions on the fallow make quite a different situation between the two categories.

Mr. Weiser called attention to approximately 850 trials with phosphate fertilizer on summerfallow locations throughout North Dakota. Average increased yield of wheat on such fields, the tests have revealed, is just slightly under 5 bu. an acre. Yields in some instances have been improved as much as 12 bu. an acre.

Data gathered from the 850 trials have indicated an average net return for the farmer, above the cost of the fertilizer, of around $7 an acre on wheat.

Mr. Weiser made clear that adequate soil testing might have eliminated in the trials some fields not needing phosphate—thus pushing still higher the potential improvement and profit on the soils where fertilizer was urgently needed.

As a drill row application, which is the recommendation of the college, 15 to 35 lb. of available phosphorus are used for small grains. Addition of up to 30 lb. of nitrogen per acre in row applications also are considered safe, from the standpoint of affecting seed germination, for small grains in moist soil.

"Bet your fertilizer dollar on crops most likely to give you the largest return," is the gist of the advice farmers should have on fertilizer.

Detailed information on recommendations for various crops and conditions was outlined for the dealers by most of the conference speakers.

Zenas Beers, Middle West Soil Improvement Committee, Chicago, registered a vigorous plea for support by the entire fertilizer industry of research in progress at the North Dakota Agricultural College and elsewhere. He declared that farming, like the fertilizer industry, is in the midst of a revolution. It's the farmer and business man who does an efficient job who stays in business—the other kinds get obsolete fast.

Keep people looking for better ways of doing things, was Mr. Beers' plea. Encourage a value system that will stimulate farmers in doing things better, that calls for a strong research and educational program. A lot more information is needed on the role of fertilizer in crop production. Progress has to be built on an efficient set of facts which can be produced only through constant, intelligent research.

R. B. Widdifield, former North Dakota extension agronomist and now in an administrative position with the Extension Service, announced plans to resume farm demonstrations on fertilizer, in cooperation with the Tennessee Valley Authority. An effort will be made to compare the economic value of fertilizer and other production practices.

W. R. Allstetter, vice president of the National Plant Food Institute, Washington, D.C., told the fertilizer dealers that the most important change in their business has been the trend toward considering fertilizer as an "economic" factor in farming operations. He said economic analyses are bringing about a drastic change in fertilizer usage. Profit for the farmer, he pointed out, falls off more from under fertilizing than from over fertilizing.

Other speakers included Dr. R. A. Young, associate professor of soils at North Dakota Agricultural College, on problems encountered in predicting crop responses to nitrogen, and Dr. J. R. Webb, associate professor of soils, Iowa State College, Ames, Iowa, who stressed the importance of solubility of phosphate for effectiveness as fertilizer.

No organization business nor official action was taken by the dealers in attendance at the session. The conference, however, was one of the largest in attendance of any in the eight years the session has been held in Fargo.

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Harry R. Bryson, Kansas Entomologist, Dies

MANHATTAN, KANSAS — Harry R. Bryson, 64, associate professor of entomology at Kansas State College, died at his home in Manhattan recently. He had been in ill health for some time, but still taught part time at the college.

Mr. Bryson joined the K-State staff in 1924 as assistant in entomology and for many years taught the beginning entomology courses. He was active on several campus committees and did research on chinch bug control. A national authority on soil insects and ecology, Mr. Bryson was co-author of two state board of agriculture bulletins and wrote many articles for scientific journals.

Robert B. Lenhart

Robert B. Lenhart Appointed as PCA Sales Representative

WASHINGTON—The Potash Company of America has announced the appointment of Robert B. Lenhart as sales representative for the northeastern and Canadian territory. He succeeds F. Edward Smith, Jr., who is now in the Washington office of the Potash Company of America.

A native of New York, Mr. Lenhart attended the New York State Institute of Applied Agriculture at Farmingdale, Long Island. He graduated from there in 1931 and worked at the school as assistant to the farm superintendent until 1934.

From 1934 on, Mr. Lenhart was with the Cooperative G.L.F., where he had experience in the purchase and sales of materials, mixed fertilizers and other related items. He will make his headquarters at 25-24 High St., Fair Lawn, N.J.

Stauffer Develops New Herbicide

RICHMOND, CAL.—A new herbicide for preemergence application which Stauffer Chemical Co. says has proved to be effective in controlling all grassy weeds and many broad-leaf weeds has been developed by Stauffer. It is, however, still classified by the company as "experimental."

Chemically, the herbicide is Ethyl N,N — di - n - propylthiolcarbamate. Stauffer identifies it as EPTC.

In field tests which have been conducted in various geographic areas EPTC has yielded excellent weed control results involving many crops, including alfalfa, corn, carrots, tomatoes, sugar beets, and clover, Stauffer said. All these crops were found to be resistant to both preemergence and postemergence application of the chemical.

Stauffer plans to expand its field testing of EPTC this year in cooperation with a number of agricultural research agencies.

Patent Issued for Soil Moisture Apparatus

CEDAR GROVE, N.J.—A patent dealing with apparatus for measuring moisture of soil has been issued to Dr. Robert Rosenthal who heads electrolytic conductivity and allied chemistry research and development for Industrial Instruments, Inc., Cedar Grove, N.J.

The main claim of the issued patent is the use of platinized electrodes in absorption blocks used in measuring soil moisture. The soil-moisture blocks permit simpler and less costly associated equipment to be used with them, the firm says. Such blocks are buried in the soil at approximately root levels, with their insulated leads extending up to the surface for connections with the measuring instruments.

armers Deserve More Credit or Boosting U.S. Standard of Living, Alabama Group Told

ONTGOMERY, ALA. — Farmers e not been given the credit they erve for the magnificent job they e done in increasing the standard living in the United States, Louis son, secretary and director of in- nation for the National Plant d Institute, told members of the bama Soil Fertility Society at r second annual meeting here Dec.

Those of us concerned with agri- ure and its problems have an gation to show the relation be- en agricultural research, tech- ogy and farming progress and the that our standard of living is stantly increasing, thanks to the tribution of the American farmer," said. "However, I don't believe t the general public has been told much about the great job he is ng."

Mr. Wilson pointed to recent atements by officials of the fed- al government that the increased ficiency of farmers between 1940 nd 1950 resulted in a saving of ght to ten billion dollars by con- mers for the food they purchased, sum sufficient, he said, to pay all the cost of the federal research rogram for more than 100 years.

Despite these advances in farming, wever, Mr. Wilson emphasized that e are yet a long way from apply- our current stock of scientific owledge. Although the use of fer- zers has increased steadily, many rmers still have their crops on a mi-starvation diet. For the country a whole, they are using less than lf as much fertilizer as their experi- nt stations and extension agrono- sts recommend."

A plea for better support of the tion's land-grant colleges was made Dr. Willard M. Fifield, provost for riculture of the University of Flori- . "With such limitations on funds, rsonnel and facilities and with in- eased pressure from industry, the lection of projects is a major prob- m of the agricultural experiment ation," he said.

The low salary scale in the state lleges was termed a "really tragic oblem," but Dr. Field added that laries were not the only problem of hance. "Buildings, equipment, travel pense, and sub-professional help all ter the picture," he said.

The land-grant college can be the nd of institution the people of the ate want it to be, Dr. Fifield said, t the root of the problem lies in a ck of understanding, not indiffer- ce. And, he emphasized that the me had come when our citizens must oose whether they want to retain e best brains in the public service, let them go to private enterprise d be satisfied with mediocrity in ricultural research, teaching and tension.

Increased efforts by the fertilizer ndustry toward the acceptance by armers of the state's recommended rades of plant food were urged by Dr. Clarence Wilson, head of the oil testing laboratory at Auburn. The list of seven ratios promulgated his year will amply care for the oil and crop needs of Alabama in he light of field research and soil ests conducted throughout the tate, he said.

J. W. Pate, DeKalb County agent, aised soil testing as the best tool r determining the fertilizer needed at has been found in many years. armers are making rapid strides in creasing yields and lowering costs production through its use, he ated.

The spread of the imported fire ant roughout the Southeast poses a rious problem to certain crops and to livestock production, according to W. A. Ruffin, extension entomologist of Auburn who discussed control of this and other insects through the incorporation of insecticides in fertilizer mixtures.

Industry's relation to soil and water conservation was discussed by Julian Brown executive secretary of the state soil conservation committee, while W. H. Moore, ASC official, told of the operations of the soil bank in the state this year and plans for 1957. H. V. Jordan of Mississippi State College gave a summary of research on sulphur.

Frank Boyd and Charles Summerour, both of Montgomery, were re-elected president and secretary-treasurer, respectively. Warren Belser of Birmingham and L. E. Cooper of Roanoke, were elected vice presidents. Reelected to the board of directors were B. J. Fitzgerald, Selma; A. A. Morris, Dothan; E. P. Garret, Decatur, and E. W. Bryant, Birmingham. New directors elected were A. T. Joiner, Birmingham; R. J. Smith, Jr., Montgomery; M. H. Conner, Eufaula, and T. H. Golson, Montgomery.

Approximately 200 representatives of the fertilizer and related industries, and state and federal governmental agencies were in attendance.

WALNUT CONTROL BUDGET

PORTLAND, ORE.—The U.S. Department of Agriculture's marketing service has set a budget of $99,350 for the walnut control board operating in Oregon, Washington and California. The budget covers the marketing year which began last Aug. 1. At the same time, the service set an assessment of .1 of a cent a pound on unshelled walnuts and .13 of a cent a pound on shelled walnuts to be paid by each handler to the board.

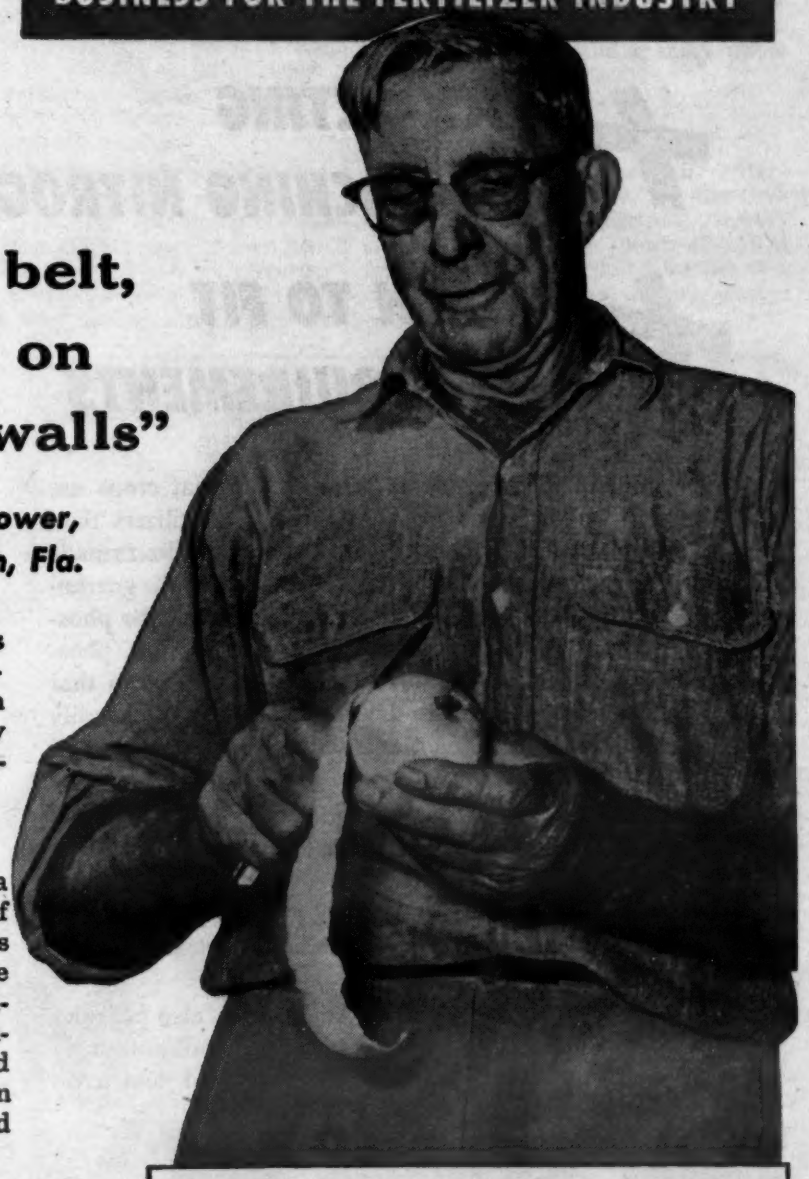
Kansas State Insect Studies to Continue

MANHATTAN, KANSAS — Basic research on factors which affect growth in insects will be continued at Kansas State College for the next three years under an additional $15,120 grant by the U.S. Public Health Service.

The agricultural experiment station project is being directed by Fred A. Lawson, K-State entomologist. He will have two part-time assistants, as well as other technicians, working under his supervision.

Mr. Lawson is particularly interested in differing rates of growth of internal structures, as compared with body wall structures, in insects. The K-State entomologist will present two papers before the national meetings of the Entomological Society of America in New York City during the Christmas holidays. These papers are the outgrowth of basic research by Mr. Lawson and associates during the past three years.

HOW UNION MULTIWALLS BUILD MORE BUSINESS FOR THE FERTILIZER INDUSTRY



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F. M. Hahs, citrus grower, Land O'Lakes region, Fla.

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Welcomes fertilizer tips from Union

This veteran citrus grower, who recently won a $500 award as the "longest steady customer" of the Gulf Fertilizer Company of Tampa, operates his 29-acre citrus farm along scientific lines. He is an interested reader of tips on fertilizer application that come to him through Union's countrywide information program. Union-sponsored features on fertilizer use are seen or heard in newspapers and magazines, and on radio and television stations.

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Mr. R. R. Reed, Sales Manager, Gulf Fertilizer Company, Tampa, Florida.

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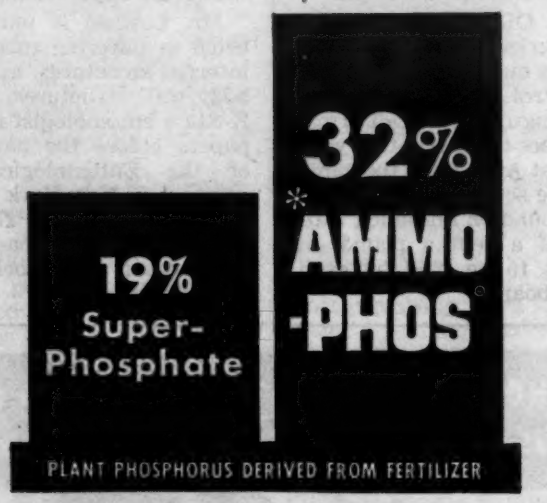

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Responsibility to Protect Food From Pesticide Residue Discussed at Ohio Meeting

COLUMBUS, OHIO—Protecting the users of foods which have been subjected to pesticide treatment from residual poisons is the responsibility of both the manufacturer of the chemicals and the users of them, Joseph J. Milunas, Cincinnati, a representative of the U.S. Food and Drug administration, told the 10th annual Ohio Pesticide institute here Nov. 19-20.

Asserting that much can be done to eliminate such residues from fruit, vegetables and animal products which come in contact with pesticides during preparation for market, Mr. Milunas added that in every case where Food and Drug men have found residual poisons beyond the legal allowances on products from Ohio farms, the causes have been the misuse of pesticides or not following the directions on the product.

To keep within allowable pesticide tolerances, the speaker cautioned growers, the pesticide must be used only on crops specified, at the proper time and only in the recommended amounts.

The speaker explained that the government's present pesticide program, under the recently legislated Miller amendment to the Food and Drug act, is still in the educational state, stating that in most noncomformity instances the growers and shippers have so far only been warned. However, next year the administration expects to become more exacting in its enforcement of the laws.

The Miller amendment, as explained, provides for a new residual test procedure in establishing tolerances for pesticides. It eliminates the old public hearing method of determining allowable tolerances.

The speaker urged growers to keep a careful spray record and to set up a definite spray schedule both for their own protection in residual problems and to provide such information for Food and Drug inspectors who might pick their farms for inspection. At present such "routine" inspections are made on a random sampling basis, but most growers are unable to furnish sufficient information, so a test must be made of their products. The growers later receive laboratory reports.

A new system is being set up whereby the grower, rather than the shipper, will be prosecuted for violations of the tolerance laws. The growers will then guarantee the shipper that the raw agricultural commodity is not adulterated, as stated in the Food and Drug law, Mr. Milunas continued.

He warned that many growers are using promiscuous spraying methods. "In fact," he said, "I haven't seen one grower using a protective respirator or gloves, even when he is using highly poisonous chemicals."

Unfortunately, Mr. Milunas observed, the grower doesn't find all of the information he needs on the label of pesticides. Therefore, he must depend on other sources for additional information in using the chemicals.

"The personnel of the Food and Drug administration is dedicated to the ultimate protection of the consumer," he concluded. "We'll make a lot more progress when everyone is concerned about the situation."

Dr. C. R. Neiswander, in charge of entomological research at the Ohio Agricultural Experiment station at Wooster, reporting on the Washington conference of the Agricultural Research Institute, held during the second week of November, said the U.S. Food and Drug administration is planning to publish very soon a b letin stating the allowable toleran for various pesticides.

He noted reports that insects c the people of this country $4 bill annually, and that some $52 is sa each year for every dollar spent insecticides.

Dr. Neiswander also pointed studies made of towns where reg lar spraying for fly control has be continued for a number of year The studies showed a correspondin decrease in communicable diseas in these towns. The entomologi said we must do more testing pesticides on humans, because the often react differently to chemica than animals do.

Dr. H. C. Young, in charge of search in botany and plant patholo at O.A.E.S., announced plans for international conference on syste chemicals, those which penetrate in the plant. He said the Agricultur Research institute is making plans f such a conference in Washingt about next October.

Dr. Young, co-editor of the "Oh Pesticide News," stressed the ne for an international conference bring together all available inform tion on systemic chemicals. He add that at least a dozen laboratories England are specializing in the chemicals, and several other Eur pean countries are doing considerab work in the field.

"We are concerned with the rapid ty with which problems of rodent an bird control are developing and wit our inability to cope with them," W W. Dykstra, assistant to the chie branch of Predator and Rodent Co trol, division of Fish and Wildlife se vice, Washington, D.C., told the grou at the introduction of his remarks.

Such chemicals as anti-coagu lants, which cause hemorrhaging after repeated dosages, have been helpful in rat and mouse control since their introduction about six years ago, he added. Three anti-coagulants are now in use, and a fourth is now being developed, Mr. Dykstra stated.

The assistant to the chief said th Fish and Wildlife service is presentl confronted with much interest in us ing these materials as so-calle "tracking powders." This metho widely used in Europe, is said to b highly effective. Rats and mice ru through the dust placed in runway and pick up the material on their fee and fur, which they later lick.

Nevertheless, the presence of th powder in the area of food storag poses a serious hazard to food purity Mr. Dykstra warned; therefore, th technique is still being studied. Th studies include the use of trackin powders as perimeter controls aroun food establishments to prevent rat and mice from getting into the foo storage areas.

Insects, rodents, birds and fung make it difficult to reforest burne over timber land in the Northwest the speaker continued. Helicopters spread the seed, but without protec tion from these enemies the plantin has little chance for success.

Killing mice provides only brie protection, because the areas are soon reinfested from nearby areas. Th present program seeks to "educate the mice, through repellents, not t eat seeds. So far, nearly 7,000 com pounds have been tested for repellen properties in this search. The speake urged companies to send all new re pellent chemicals to the Wildlife Re search laboratory in Denver, Colora do, for testing. All formulas are kep in confidence, he assured; the Fis

Wildlife division is merely intered in finding a suitable control.

Birds, unlike color-blind mice, e easier to control. Their sensivity to color makes bright yellow d red dyed seeds comparatively fe from being consumed.

Considerable research is also aimed the control of birds. Sterility—ducing chemicals which prevent, at st temporarily, normal reproducn appear to offer the best solution. Mr. Dykstra noted that with the ning of the jet age every bird is otential threat to aircraft. A bird n cause serious damage to a plane. Dr. J. B. Polivka, entomologist at A.E.S., reported that both Chlorne and Dieldrin have been effective controlling grubs in turf. Test plots Chlordane, applied to turf at five unds actual material per acre, have ntrolled the grubs for eight years, d Dieldrin, applied at the rate of ee pounds per acre, is still effective er four years. Chlordane also elimited some undesirable grasses from e turf, it was indicated.

Dr. Polivka also noted that where oils are very acid (5 pH or lower) here was a heavy grub infestation, nd the Japanese beetles soon inreased to epidemic proportion. An cidity of about 5.7 pH was more avorable in controlling the beetles.

Dr. R. B. Neiswander, entomologist, ported a series of tests, made at the Wooster station, for mite and insect control on dahlias. Conclusions reached were that soil treatments in general were more effective in control of mites than were sprays.

Dr. C. R. Cutright, also an O.A.E.S. entomologist, stated that we now have more very promising miticides and aphicides to offer the grower for controlling European red mites and rosy aphis than ever before. He noted that most commercial apple orchards in Ohio have strains of red mites which are resistant to commonly-used materials. This makes changing to different miticides necessary to control these pests.

Dr. H. F. Winter, plant pathologist, listed streptomycin as the most effective antibiotic tested at Wooster in the control of fire-blight on apples and pears. This, he said, can be applied in several ways. He observed that even though early sprays might control blossom blight, a later spray must be used to control twig blight, if an epidemic should develop on the trees.

Chemical weed control in strawberry plantings has real possibilities, Dr. R. G. Hill, horticulturist at O.A.E.S., told the group. Nevertheless, he added, "it's not a magic wand to wave over the planting and get rid of the hoe and cultivator."

Dr. Hill suggested an application of SES (2,4-dichlorophenoxy ethyl sulfate) at the rate of three pounds per acre on Ohio soils. This will give good weed control, he said, and will not damage the plants. It should be applied in from 20 to 50 gallons of water per acre at 45-50 pounds pressure. The entire area should be sprayed, not just the rows, he insisted. 2,4-D is also satisfactory if used in similar application, but he warned against repeated applications.

Chemical weeding could save up to half of the labor on large acreages, he concluded; nevertheless it would probably be impractical for the smaller grower.

Dr. C. R. Weaver, O.A.E.S. entomologist, reported on tests indicating granular insecticides equally satisfactory to spray in spittlebug control. He noted that clay carriers proved more effective than tobacco carriers. He also credited airplane application with equal effectiveness to ground application with the granules. Granular BHC, he observed, showed less initial residue than spray applications and none of it remained after 21 days in the tests.

Amino triazole shows great promise in the control of Canadian thistle, according to Donald D. Bondarenko, research agronomist of Ohio State University, Columbus. No crop injury was noted in the test areas; however the chemical must be applied on the leaves of the thistles to be effective. Various methods and dates of application brought satisfactory results during the past two seasons.

Granules can effectively control corn borers on sweet corn, Dr. L. H. Rolston, O.A.E.S. entomologist, reported. Test results have shown two applications of granules as effective as two of spray, while a single application was not as satisfactory as a single application of spray, he explained.

Dr. J. P. Sleesman, entomologist, indicated the station will recommend both Endrin and Phosdrin for cabbage worm and looper control next year. Although Endrin can not be applied after the heads form, Phosdrin can be safely applied up to 3 days prior to harvest.

About 80 representatives of chemical manufacturers, growers and research men attended the institute.

County Removed from Medfly Regulated Area

WASHINGTON — Federal Mediterranean fruit fly quarantine restrictions affecting the interstate movement of fruits and vegetables and other regulated articles from Palm Beach County, Florida, were revoked on Dec. 12, the U.S. Department of Agriculture has announced. The counties of Broward, Collier, Dade, Hendry, Lee and Pinellas continue under regulation.

No specimens of the Medfly have been found in Palm Beach County for the last three months. Eradication of the pest in the county was accomplished primarily by means of airplane-applied poison-bait sprays. The areas sprayed one or more times included 27,000 acres.

SOIL SESSION

LAFAYETTE, IND.—J. B. Peterson and A. J. Ohlrogge, Purdue University, and M. B. Russell, University of Illinois, will speak at a soil fertility session scheduled for the second day of Purdue's annual winter conference Jan. 2-5.

WITH CAMERA AT OHIO PESTICIDE MEETING—Officers of the Ohio Pesticide Institute, pictured at the group's tenth annual school and conference at Columbus Nov. 19-20, are seen in top photo. Front row, left to right, are J. J. Coyle, Jr., Rohm & Haas, Cuyahoga Falls, Ohio, newly-elected second vice president; Dr. J. D. Wilson, plant pathologist, Ohio Agricultural Experiment Station, Wooster, Ohio, reelected secretary; Dr. C. R. Neiswander, head of entomological research at O.A.E.S., director; Dr. D. L. Goleman, extension entomologist, Ohio State University, Columbus, Ohio, director.

Back row, left to right: P. C. Pratt, Letherman Seed store, Canton, Ohio, reelected first vice president; M. G. Farleman, Standard Oil Co., Cleveland, Ohio, reelected president; V. H. Davis, Ohio Farm Bureau, Columbus, Ohio, reelected treasurer. Absent when the picture was taken, were W. J. Majure, California Spray-Chemical Corp.; Maumee, Ohio, newly-elected director; Bruce Simms, American Cyanamid Co., Gahanna, Ohio, newly-elected director; H. C. Brenneman, retail dealer, Wooster, Ohio, director; D. W. Zimmerman, Diamond Fertilizer Co., Sandusky, Ohio, director.

In the lower photo, Joseph J. Milunas, U.S. Food and Drug administration, Cincinnati, Ohio, at the left, and M. G. Farleman, Standard Oil Co., Cleveland, Ohio, view the insecticide merry-go-round exhibit at the Ohio Pesticide institute. The merry-go-round is an exhibit of the commonly used insecticides with a small vial of each material. It rotates on a turntable and was prepared by G. W. Ware and Dr. D. L. Goleman, extension entomologists, Ohio State University. Mr. Milunas addressed the institute, and Mr. Farleman was reelected president.

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Optimum Application of Plant Food Worth More Than Adding Acres, Minnesota Group Told

ST. PAUL, MINN.—That the addition of optimum amounts of fertilizer materials on presently-cultivated acres is of more value than the purchase of new land, was brought out at the sixth annual Soils and Fertilizer Short Course at the University of Minnesota here Dec. 3. Prof. Ermond Hartmans, associate professor and agricultural economist, in his paper, "Effect of Fertilizer Use on the Farm Business," said that the "size" of a farm should be calculated not on the number of acres involved, but rather, in terms of the total business that can be done on a given area.

Fertilizer, he asserted, affords the means of getting the most business out of land. It offers benefits far beyond the cropping program itself, he said. Such benefits include conservation of labor and of course a reduction in unit costs of production.

The best way to make a farmer aware of the value fertilizer can be to him, is through demonstration plots, Mr. Hartmans declared. Such demonstrations should be on a much larger scale than those ordinarily used, he said. Often a farmer who would not be convinced through production figures from a small plot used in fertilizer trials, could be thoroughly sold if such plots were enlarged into field size, or even into entire farm size. Such would provide a much stronger selling point, he declared.

Mr. Hartmans' paper was one of several prepared for presentation at the short course. Other speakers included staff members from the University's college of agriculture, the National Plant Food Institute and the Middle West Soil Improvement Committee.

Presiding at the morning session was Dr. C. O. Rost, professor emeritus, department of soils. T. H. Fenske, associate dean of the Institute of Agriculture welcomed the more than 600 persons present at the short course, and Dr. W. P. Martin, head of the Department of Soils, spoke briefly to describe the department's plans for the future which include the University's new soils building, construction of which he announced had just been started.

Dr. J. M. MacGregor, professor of soils, described how minor element chelates help the availability of plant food in soils that are high in lime content. A. C. Caldwell, also from the University of Minnesota, discussed the importance of fertilizer solubilities, reporting that some tests indicated equal responses from fertilizers regardless of their solubilities.

Dr. E. B. Norum, professor of soils, North Dakota Agricultural College, discussed "Water Use and Crop Fertilization," reporting on experiments made on different types of soil under varying conditions of rainfall and subsoil moisture.

In his talk on "Start with Lime," John Grava, research fellow in the Minnesota department of soils, described the liming needs of many of the soils of the state, pointing out that the need is greatest in central and eastern areas of Minnesota.

W. R. Allstetter, vice president of the National Plant Food Institute, Washington, D.C., told the group that the soil bank in 1957 is likely to make but little difference in the over all consumption of fertilizer in the middlewestern area. Whereas some loss will be felt in the retirement of some acres, additional amounts of plant food applied on productive acres should cause the total tonnage used to be about the same in quantity that would have been used normally.

A panel discussion on "Soil Management for Crop Production" brought out many agronomic considerations of management. Moderator of the panel was C. J. Overdahl, assistant professor and specialist in soils at the University of Minnesota. Other participants included Richard H. Rust, assistant professor, department of soils; Roy Lukken, Waseca County (Minn.) farmer; Clarence W. Meyers, Faribault County farmer; and Roy Bennett, soil conservationist of the Minnesota Soil Conservation Service.

The arrangements committee included J. O. Christianson, director of the University's agricultural short courses; Charles A. Simkins, assistant professor and specialist in soils; J. M. MacGregor, professor, department of soils; W. P. Martin, head of the department of soils; and John Mulvehill, fertilizer materials specialist, Farm Bureau Service Co., St. Paul. A sixth member of the committee was the late W. P. McDonald, director of the agricultural department of Peavey and Co., Minneapolis. Mr. McDonald was the victim of a recent automobile accident in Minneapolis recently.

The sessions of the soils and fertilizer short course were held in the auditorium of Coffey Hall, on the St. Paul campus of the University.

Colorado Fiscal Year Sales Total 58,047 Tons

DENVER—Colorado fertilizer sales during the fiscal year ended last June 30 totaled 58,047 tons, according to the Colorado Department of Agriculture.

The total included 41,684 tons of materials, 15,520 tons of mixed goods and 843 tons of soil amendments and conditioners.

Leading mixed grade was 10-16-8 with sales of 1,380 tons. Leading materials were superphosphate, 30% and over, 13,826 tons, and ammonium nitrate, 23.5% to 33.5%, 11,680 tons.

SOILS SPECIALIST

ST. PAUL—Curtis J. Overdahl, an Elk Point, S.D. native, has joined the University of Minnesota staff as an extension soils specialist. Mr. Overdahl will work in cooperation with Charles Simkins, another extension soils specialist at the university, in bringing information on soil fertility and general soil improvement to Minnesota farmers.

Thornton F. Holder

Thornton F. Holder Named Diamond Alkali Director of Research

CLEVELAND — Appointment of Thornton F. Holder to the post of director of research for Diamond Alkali Co., Cleveland, was announced here Dec. 10 by John A. Sargent, president. The appointment is effective immediately.

Mr. Holder replaces Dr. Albert W. Meyer, who has resigned from his present position as director of exploratory research. Mr. Mayer plans to continue in the field of chemical research. He will announce his plans in the near future.

In addition to taking over direction of Diamond's exploratory research program, Mr. Holder will continue to be responsible for its patent and trade mark activities and supervision of general-purpose research facilities and operations otherwise unassigned. He will also continue to assist the president of the company in coordinating Diamond research efforts with the activities of its various operating divisions and other organizational units.

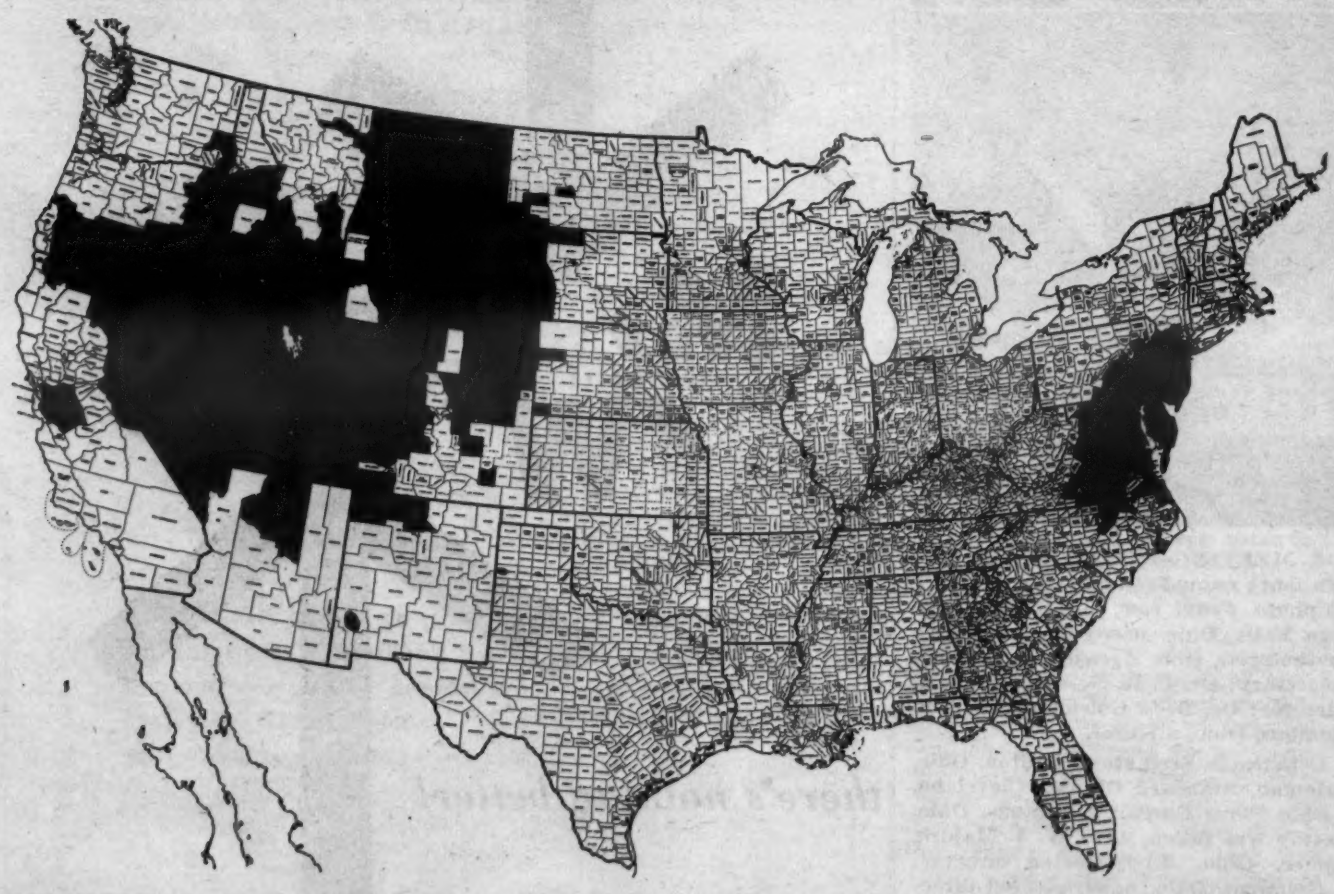
Mr. Holder joined the company in 1946 as patent counsel, and eight years later was named research coordinator and patent counsel. Previously, from 1943 to 1946, he was an officer in the U.S. Navy on special assignment to the wartime atomic energy program. From 1937 to 1943 he was associated with Moses & Nolte, patent attorneys, New York. He is a graduate of Wesleyan University, Middletown, Conn., with the degrees of B.A. and M.A. in chemistry. He earned his LL.B. degree in 1937 from Fordham University, New York.

Storage Capacity

NEW HAVEN, CONN.—Bulk storage capacity for more than 1,500 tons of 66 degree Baume sulfuric acid has been completed for Monsanto Chemical Co. at New Haven Terminal, Inc., 30 Waterfront St., it was announced here recently. Sulfuric acid is produced by Monsanto at its Everett, Mass., plant and shipped by barge to the New Haven facility where it can be transshipped by tank truck.

NUT GROWERS MEET

PORTLAND, ORE. — R. E. Kerr, Eugene, recently was elected president of the Nut Growers Society of Oregon and Washington at the group's 42nd annual meeting at McMinnville, where officers named Chas. Mulkey, McMinnville, first vice president; Gordon Hull, Salem, second vice president, and C. O. Rawlings, Oregon State College, secretary. E. I. Doolittle of Eugene was named the first member to qualify for the society's new one ton per acre contest in walnuts. R. E. Reeve, also Eugene, qualified in filberts. The 1957 convention will be held at Salem.

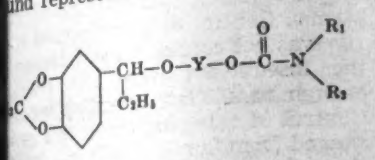


DISTRIBUTION OF ALFALFA WEEVIL—The above map of the United States, shows graphically the heavy distribution of alfalfa weevil in both eastern and western portions of the country. With the heaviest infestations in the west, the insect nonetheless has established a firm foothold on the Atlantic coast in New Jersey, Maryland, Delaware, Virginia, much of Pennsylvania and parts of New York and North Carolina.

Western states affected cover vast areas, including much of Oregon and Idaho, all of Nevada, Utah, and Wyoming and large areas of Montana and Colorado. The pest is also found in New Mexico, Arizona, North and South Dakota, and parts of Nebraska, according to the map. One spot in Central California is also shown to be infested, as is a relatively small area of New Mexico. This map was compiled in the plant pest survey section of plant pest control, Agricultural Research Service, U.S. Department of Agriculture, Washington, D.C. Information presented here is based on state reports received to November, 1956, and from ARS records.

Industry Patents and Trademarks

,773,062. Organic Compounds and ecticidal Compositions. Patent is- d Dec. 4, 1956, to Edward A. Prill, nkers, N.Y., assignor to Boyce ompson Institute for Plant Re- rch, Inc., Yonkers, N.Y. The com- und represented by the formula



herein Y is a member of the group nsisting of divalent alkylene radi- ls containing from 2 to 6 carbon oms and divalent alkylene radicals ntaining from 2 to 6 carbon atoms hich are interrupted by an ethereal ygen atom, R_1 and R_2 are selected om the group consisting of the fol- wing elements: The hydrogen atom, onovalent alkyl radicals having 1 to carbon atoms, monovalent hydro- rbon cycloalkyl radicals having not ore than six carbon atoms in a clic ring and having not more than carbon atoms in the radical, mono- lent alkoxyalkyl radicals having not ore than 12 carbon atoms, the henyl radicals, monovalent aralkyl adicals having 7 to 10 carbon atoms, he furfuryl radical wherein not more han one of R_1 and R_2 is the furfuryl adical, the tetrahydrofurfuryl radi- al wherein not more than one of R_1 nd R_2 is the tetrahydrofurfuryl radi- al, not more than one of R_1 and R_2 eing hydrogen, and elements which orm, with the nitrogen atom of

o which they are attached, the piperi- lino radical, the morpholino radical, he 2-methylpiperidino radical, the 5- thyl-2 methylpiperidino radical, and he pyrrolidino radical.

2,773,102. Treatment of Benzene Hexachloride. Patent issued Dec. 4, 1956, to John T. Clarke and Hoyt J. Cragg, Baton Rouge, La., assignors to Ethyl Corp., New York. A process for enhancing the gamma isomer concentration of a benzene hexachloride somer mixture containing the gamma isomer, comprising extracting the gamma isomer from said mixture with ethylene glycol, cooling the extract obtained therefrom to effect crystallization of an enhanced gamma somer benzene hexachloride product and recovering said product, the extraction being carried out at a temperature above about 80° C.

2,773,103. Enhancement of Gamma Benzene Hexachloride Content. Patent issued Dec. 4, 1956, to George Calingaert, Geneva, N.Y., assignor to Ethyl Corp., New York. In a process for the production of a product containing an enhanced proportion of gamma benzene hexachloride by partially dissolving crude benzene hexachloride obtained from the additive chlorination of benzene in a solvent selected from the group consisting of lower aliphatic alcohols, benzene, trichlorobenzene, lower alkyl acetates and lower alkyl ethers, said solvent being employed in quantities sufficient to dissolve substantially all the gamma benzene hexachloride contained in said crude benzene hexachloride, separating the thereby formed solution from the undissolved solids and crystallizing a product containing an enhanced proportion of gamma benzene hexachloride from said solution, the improvement comprising recycling substantially all the solids and solvent of the mother liquor from said crystallization step to said partial dissolution step.

2,773,104. Manufacture of Hexachlorobenzene. Patent issued Dec. 4, 1956, to Waldo B. Ligett, Berkley, Mich., assignor to Ethyl Corp., New York. A process for the manufacture of hexachlorobenzene comprising treating benzene hexachloride with chlorine in the presence of a catalyst selected from the group consisting of antimony, iron, aluminum, arsenic, bismuth and tin and the halides and oxyhalides thereof at a temperature between about 200° C. and 350° C. until a substantial proportion of hexachlorobenzene is produced.

2,773,105. Dehydrochlorination of Benzene Hexachloride. Patent issued Dec. 4, 1956, to Alfred J. Kolka, Birmingham, Mich., assignor to Ethyl Corp., New York. A process for making trichlorobenzene having an enhanced 1,2,4-trichlorobenzene concentration by dehydrochlorination of benzene hexachloride, which comprises contacting benzene hexachloride at a temperature of between about 180° C. and a temperature at which substantial decomposition of trichlorobenzene takes place with activated carbon.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Sukroil, in capital letters, with the central "R" larger than the other letters, for self-emulsifying, highly-refined petroleum oil used to eliminate and inhibit the growth of secondary leaves on tobacco plants commonly referred to as "suckers." Filed Aug. 23, 1955, by Pennsylvania Refining Co., doing business as Penreco, Butler, Pa. First use, June 27, 1955.

Nico-Fume, in capital letters, for insecticidal compound for fumigating greenhouses. Filed Oct. 24, 1955, by Diamond Black Leaf Co., Cleveland, Ohio. First use, June 8, 1904.

Chlor-O-Gas, in capital letters, for insecticides and mothicides, namely: crystals for killing and preventing moths and compositions for killing larvae and eggs consisting of paradichlorobenzene. Filed Oct. 24, 1955, by Halben Chemical Co., Inc., New York. First use, January, 1955.

Wonderbark, in hand-lettered design, for plant matrix consisting of fir bark to which nutrients for orchids and other plants have been added. Filed April 9, 1956, by Roderick I. McLellan, doing business as Rod McLellan Co., South Francisco, Cal. First use, Oct. 15, 1955.

Gro! Gro!!! In capital letters, for plant food. Filed July 18, 1956, by South Memphis Stockyard Co., Memphis, Tenn. First use, May 22, 1956.

SOYBEAN CHAMPION

LAFAYETTE, IND.—A Clay County farmer, Robert Bedwell of Brazil, led 95 Indiana farmers enrolled in the state 5-acre soybean yield contest for championship honors in 1956 with a yield of 61.8 bu. per acre. K. E. Beeson, Purdue University agronomist, who was in charge of the contest sponsored by the Indiana Crop Improvement Assn., said the average yield of all state contestants was the highest in the 17-year history of the event.

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SYSTEMIC TESTS

(Continued from page 1)

of thrips, aphids, and spider mites where these pests were a problem on seedling cotton. Dosages of 1 lb. an acre proved effective for 4 to 6 weeks after plant emergence. The effective period was reduced by 1 to 2 weeks when only one-half pound of the chemicals was used per acre.

Striking results were obtained in aphid control. An unusually heavy early-season infestation of these pests in Texas cotton-producing areas provided excellent test conditions. In 10 large-scale experiments, in which seed treatment approximated 1 lb. Thimet per acre, the treated cotton plants averaged only 0 3 aphid per square inch of leaf surface 6 weeks after planting, compared to 14 aphids per square inch on untreated plants—a ratio of 1 to 47. Control continued for several weeks longer where infestations persisted.

Two months after planting, treated plants in the most heavily infested field were about twice as tall as untreated plants. By 12 weeks after planting, the treated cotton plants averaged 19 forms (squares, blooms, and bolls) per foot of row, against an average of 9 per foot on the untreated plants. At the same time, treated plants averaged 6,000 blooms per acre, compared to 1,600 blooms per acre for untreated plants. Yield measurements showed that the treated plants produced 39% more cotton than the untreated.

Effectiveness of the two systemic chemicals against aphids was further demonstrated in another experiment, conducted in South Carolina. In this test a deliberate attempt was made to build up the aphid population by the use of calcium arsenate, commonly used for boll-weevil control. Calcium arsenate kills off predators and parasites that normally attack aphids, but does not affect the aphids.

Seed treated with each of the chemicals was planted in April, along with a control plot of untreated seed. Five applications of calcium arsenate were made between July 20 and Aug. 3 to increase the aphid population. By Aug. 10, there was a heavy infestation of aphids on the untreated plot, but not on the systemic-treated plots. An average of 100 aphids per square inch of leaf surface were found on the untreated cotton, and less than 1 aphid per square inch on the treated plants.

This experiment was the first in which use of systemics was linked with application of calcium arsenate for boll-weevil control. The entomologists emphasize that further tests are needed across the Cotton Belt to determine whether similar results can be obtained elsewhere.

Beltwide experimental results this year were not markedly different from those obtained in 1955 on weevils, cutworms, cotton flea hoppers, flea beetles, leaf miners, cotton leaf perforators, false wireworm adults, and brown cotton leafworms. The systemics were effective against light but not heavy, infestations of cutworms. Control of overwintered weevils was not considered satisfactory—the insecticides were not residual enough to kill late-emerging weevils. Control of other insects in this group ranged from fair to good for a limited time.

Effect of the systemics on cotton plants varied considerably, the report stated. Seed germination was retarded in many but not all cases. In a few instances, replanting of the seed-treated plots was necessary. But in most of the tests there was no difference in cotton stands on the treated and untreated plots after the usual chopping or thinning.

Toxic effect of the systemic on newly emerged plants was common. It was indicated usually by brown specks on the cotyledons. However, this effect was rarely carried to the true leaves. Early growth and fruiting were inhibited or delayed in some cases but greatly accelerated in others.

Yield results were not a primary aim of the 1956 experiments, but those obtained revealed little difference between treated and untreated cotton. Lint tests, conducted by USDA's Agricultural Marketing Service, showed no adverse effect on grade or staple as a result of systemic treatment.

Custom treatment of seed by persons trained to handle the toxic chemicals proved satisfactory in 1956 and is recommended for 1957 as the safest and best method of mixing and distributing the systemic insecticides for use by either researchers or farmers.

A complete story of the Cotton Production Conference will appear in the Dec. 24 issue of Croplife.

Rain Welcomed by Mid-South Farmers

MEMPHIS — Many Mid-South farmers took advantage of recent fair weather to disk land and cut cotton stalks in preparation for next year's crops. Following a stretch of fair weather there were welcome general rains.

Agricultural extension officials in Arkansas, Mississippi and Tennessee reported there had been little rain this fall and heavy rains would be needed to build up subsoil reserves.

Arkansas farmers welcomed the rains and colder weather which swept the state. Mild weather earlier had allowed farmers to do extensive disking and plowing of fields to assist vegetation in rotting before next spring's plantings.

Soil-soaking rains throughout West Tennessee made it ideal for tree seeding and for obtaining samples for soil testing.

Traditional winter jobs—fence repair, machinery cleaning and storage and the scrapping of the last row crops—occupied Mississippi farmers. Dry weather has retarded winter grazing crops in many areas.

Much land preparation for row crops and pastures next spring is under way.

In Southeast Missouri, rains were beneficial to small grains which have reached good stands on many farms. Winter cover crops such as rye and vetch are looking good. Rain is expected to help these crops.

CANNERS SCHOOL

URBANA, ILL. — Talks on new weed control chemicals and on vegetable diseases will be heard at the 1957 Illinois Canners School to be held Jan. 9-11 at the Urbana-Lincoln Hotel here.

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OMAHA, NEB.—*6th Floor, WOW Building*
PASADENA, CALIF.—*330 Security Bldg.*
RALEIGH, N. C.—*804 St. Mary's St.*
SALT LAKE CITY, UTAH—*68 South Main*
SPOKANE, WASH.—*521 E. Sprague*
ST. LOUIS, MO.—*4251 Lindell Blvd.*
TAMPA, FLA.—*3737 Neptune St.*
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By DONALD NETH
Croplife Managing Editor

PORTLAND, ORE.—Some solid answers to the problems of meeting the farm cost-price squeeze have emerged from three demonstration farm projects conducted by the Pacific Northwest Plant Food Assn.

The answers can be summed up in that well-worn phrase, "efficient production."

The plant food group has completed a three-year project on a Washington farm, has one year to go on an Idaho farm and is in its first year on an Oregon farm.

Purpose of these projects is to demonstrate, right on the farms themselves, how efficient farming, including wise use of fertilizers, can put money in the farmers' pockets.

While boosting crop and forage yields with good fertilization and other practices is a natural result of the projects, the plant food group goes beyond that added yield in measuring results of the work.

"We try to go a step past the added yield and place emphasis on how the farmer actually uses the extra yield for more profit," says Grant Braun, American Potash Institute, Portland, chairman of the association's Soil Improvement Committee.

In other words, the project payoff is not just in more yield; it's in more profit.

Some of the results of the projects were described as "tremendous" by Mr. Braun, and by Leon S. Jackson, secretary of the Pacific Northwest Plant Food Assn.

At the 80-acre Bonner County, Idaho demonstration farm, owned by Blaine Marks, for example, $453 invested in additional fertilizer in 1955 returned $1,025 in increased hay and pasture production. Hay production in 1955 increased one-third over that of the previous year. Carrying capacity of the pastures increased two and a third times.

According to Walter McPherson, Bonner County agent, the increased yield amounted to about $2.30 for every additional dollar invested in fertilizer.

Records kept by Mr. Marks on his dairy herd show how he cashed in on the boost in forage production. Total dairy output for 1955 was 95,998 lb. of milk and 4,067 lb. of fat. Production the previous year was 72,068 lb. of milk and 2,774 lb. of fat.

In selecting the Idaho farm, the Soil Improvement Committee sought a farm that was run-down, but one with potential for making money. In this manner, it was felt, the project could graphically demonstrate the value of fertilization and other good practices in bringing production, and profits, back.

Some of the field in the Bonner County farm had produced only 8 bu. of grain an acre, and the old bluegrass pastures were rundown.

The fertilizer program began during the fall of 1954, with a fertilizer program worked out with soil tests. It is not a super-heavy program, but, rather, one that any farmer can follow.

"In one year the Bonner County farm stands as an excellent illustration of how the proper grasses and legumes for the area, plus the right kind of management and fertilizers, can increase forage yields," G. O. Baker, University of Idaho Agricultural Experiment Station soils technologist, said.

Mr. Marks said that he was sold on fertilizer for his run-down land (he moved to the farm in 1951), but that the fertilizer program that he had started was not as extensive as that under the project.

"When you look at these fields and think that two years ago they produced only 8 bu. of wheat an acre, you will know the land has come a long way on the fertilizer program," he said.

"Carrying capacity of the fields has been improved to three cows per acre in May and June. Where the old native pastures ran out in June and made no recovery for further grazing in the summer, you now see the new seeded 12 acres of sprinkler irrigated pastures supporting 23 head nicely all season.

"One pasture was cut for hay. The first cutting netted 210 45-lb. bales from 1½ acres. That was red clover and brome grass."

The Pacific Northwest Plant Food Assn. has set up the three demonstrations as three year projects. Under the plan, the association finances the fertilizer the first year, commercial firms supply it the second year and the farmer buys it the third year.

The Washington state project, which was conducted on the Brad Benedict farm near Linden, Wash., has been completed.

"The results were tremendous," Mr. Braun reported. He said that

(Continued on page 13)

SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

Dealers who sometimes ask themselves if the time and money they give to their local community club "pay off" will be encouraged by studies of community work recently completed.

Briefly, community clubs "pay off," these studies by the University of Tennessee in cooperation with the Tennessee Valley Authority indicate.

For instance, Alcorn County, Mississippi farmers who belong to community clubs used a new method of fertilization ahead of farmers who do not belong to a community club. And these farmers who belong averaged higher crop yields from fertilizer as a result.

In a southwest Virginia community, a survey of an 8,700-acre mountain community tells the story of 17 years of organized community club effort. From 1937 to 1954, buying power increased by 51%. Farm and home ownership increased from 87 to 106. Mortgaged acres were reduced from 1,200 to 265; farmers used 2.7 times more machinery.

Corn yields increased from 34 to 64 bu. per acre; tobacco from 1,200 to 2,153 lb.; wheat from 12 to 18 bu.; oats from 18 to 44 bu. Dairy cows increased from 29 to 258; beef cows from 138 to 527; sheep from 1,539 to 1,617.

Increased income from increased yields resulted in expanded purchases of goods and services. In 1947, all 100 homes had electricity, compared with 16 in 1937. Electric stoves increased from 2 to 53; refrigerators from 5 to 116; central heating from 1 to 17.

Also, not one family had health insurance in 1937; by 1954, 38 families carried some form of health insurance. The church was repaired, and educational facilities were improved.

Idaho Fertilizer Dealer Meetings Set

PORTLAND, ORE.—A series of fertilizer dealer meetings will be held in Idaho next February and March under sponsorship of the Pacific Northwest Plant Food Assn. and the University of Idaho.

Meetings are scheduled at Coeur d' Alene Feb. 27, Lewiston Feb. 28, Caldwell March 5, Twin Falls March 6, Pocatello March 7 and Rexburg March 8.

Fly Control

SAN FRANCISCO—Dr. Arthur C. Smith, technical consultant on fly control to the California State Health Department, said fly control is a rising urban and rural nightmare. He addressed the dairy department of the California Farm Bureau Association in San Diego. Increased garbage and animal manure are leading causes of the fly peril, he said. Successful fly control in California, he stressed, will come only with statewide cooperation of community, industry and government agencies in chemical application and other control measures.

Tennessee Figures Show Gains

Similar results are shown in many individual Tennessee communities. Recently, however, University of Tennessee and TVA research people com-

(Continued on page 11)

By RAYMOND ROSSON
County Agent, Washington County, Tenn.

Someone has said . . . We should criticize by creation and not by finding fault . . . The virtues are lost in self-interest as rivers are in the sea . . . Revenge is the abject pleasure of an abject mind.

Prejudice squints when it looks, and lies when it talks . . . As our inclinations, so our opinions . . . The care of the soil and the public health is the first duty of the statesman . . . Riches are apt to betray a man into arrogance . . . Your community reflects what you are and what you believe . . . The person who graduates today and stops learning tomorrow, is uneducated the day after.

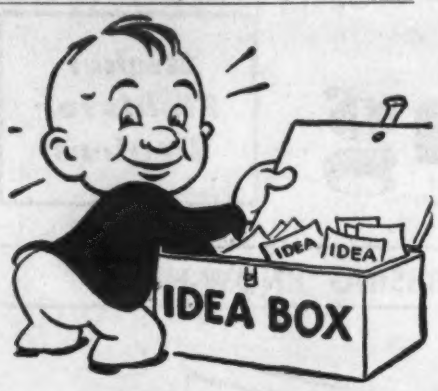
The quickest way to flatten an effervescing opinion, is to let it get exposed to the air . . . The fellow who doesn't like change is in for an uncomfortable time . . . The business man who wants his business stabilized, wants to go out of business . . . Prosperity cannot be divorced from humanity . . . The purpose of education is not to make scholars so much as to form men and women . . . He who stops being better, stops being good . . . Keep out of suction of those who drift backwards.

The happiest people are those who think the most interesting thoughts . . . Interesting thoughts can live only in cultivated minds . . . Money is a bottomless sea, in which honor, conscience and truth may be drowned . . . The face of happiness is found in the garden, the field, the workshop, the office—that is if love abounds and attitudes register close to one hundred . . . Remember—people are people's biggest problem.

HIGH COST OF WEEDS

SAN JOSE, CAL.—Paul F. Dresher of San Jose, past president of the California Weed Conference, estimates that weeds cost California farmers about $350 million last year.

"I had a talk today with the boss about more money, but I wouldn't lend him any."



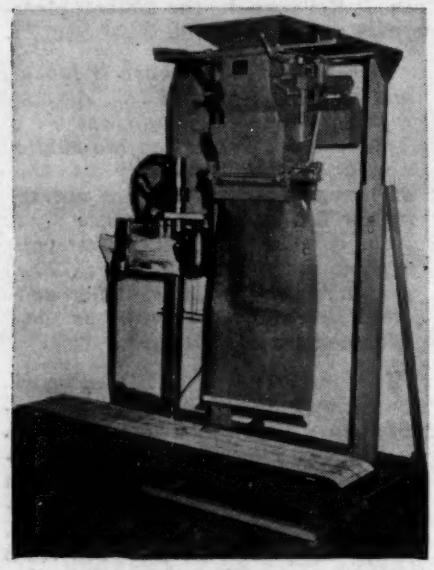
What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 5595—Scale-Sewing Machine

The Burrows Equipment Co. announces a new combination bagging scale and sewing machine. The Apex bagging scale combines weighing and filling in one semi-automatic operation. The scale will weigh grain, feed, seed, chemicals and most types of



free flowing material at the rate of six to ten bags per minute, it is claimed. The unit is available with either fixed style bag clamp, or adjustable clamp to handle bags from 25 lb. to 200 lb. The scale is mounted on a steel frame which is adjustable for different height bags. The frame is mounted on casters. It is independent of the sewing machine and conveyor. The sewing machine with conveyor belt will sew paper, cloth and burlap bags. The sewing head is adjustable to any size bag up to 40 to 48 in. The conveyor is 6 ft. long, powered with a heavy duty gear head motor and chain reduction operated by foot pedal control. For further details check No. 5595 on the coupon and mail it to this

No. 4064—Wire Screens

The Cleveland Wire Cloth & Manufacturing Co. has prepared a new two-color illustrated folder which combines a brief history of the company with partial cataloging of the most popular wire screen items. The folder is entitled, "Quality Wire Screen," and may be obtained by checking No. 4064 on the coupon and mailing it to this publication.

No. 6512—Paper Brochure

The Olin Mathieson Chemical Corp., forest products division, has prepared a brochure explaining how Kraft paper is made. The division produces multiwall bags and other paper bags and container products. The brochure provides company information and lists principal products, including its agricultural chemicals. Secure the brochure by checking No. 6512 on the coupon and mailing it to Croplife.

No. 6514—Film Catalog

The manner in which the steel industry contributes products to the fertilizer industry is depicted in one of several films available through the United States Steel Corp. The film, "The Waiting Harvest," is one of many listed in a new catalog describing motion pictures distributed by the company. Secure the catalog by checking No. 6514 on the coupon and mailing to this publication.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6510—Insect Handbook

"Handbook of the Insect World" is the latest of a series of educational aids published by the Hercules Powder Co. A total of 532 insect illustrations, with a brief description and approximate size of each insect, is in the booklet. The insects are classified by entomological order. The booklet is designed to appeal to farmers, gardeners, students and others connected with the insecticide industry. Hercules researchers spent two years in preparing the handbook from available entomology textbooks and U.S. Department of Agriculture literature, according to company officials. Secure a copy of the handbook by checking No. 6510 on the coupon and mailing it to Croplife.

No. 6507—Freight Car Apron

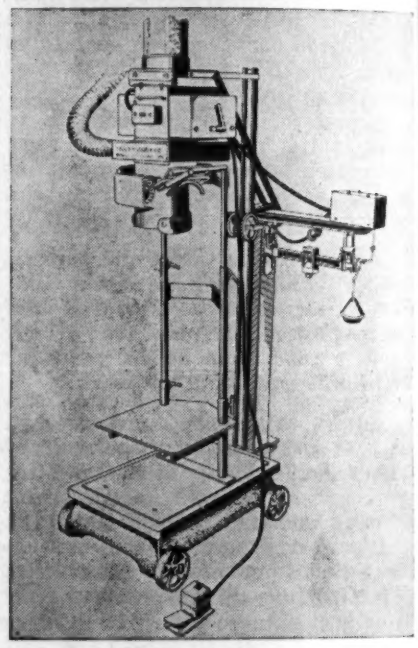
The Lite Line Industries division, Copperloy Corp., has announced the development of a new flat apron. Designed to use as bridging between flat cars in truck-rail piggy back service, the aprons can also be used for other applications where bridging is necessary for the movement of heavily loaded vehicles. The aprons are used in pairs. Each weighs less than 100 lb. and measures 30 by 56 in. Other special sizes are also available. Check No. 6507 on the coupon and mail it to Croplife to receive more complete details.

No. 6509—Catalog

Publication of a new general product catalog containing more than 375 basic industrial, agricultural and pharmaceutical chemicals is announced by the Dow Chemical Co. The 40-page edition includes descriptive information on principal product groups of Dow chemicals. Detailed information is given in tabular form for quick, easy reference. Information helpful for purchasing agents and technical personnel has been included. The index printed with last year's edition is now an integral part of the catalog. Included among the product groups listed are agricultural chemicals. A copy is available by checking No. 6509 on the coupon and mailing it to Croplife.

No. 5583—Bagger, Weigher

The Seedburo Equipment Co. announces the addition of Waymatic bagging scale to its line of testing, grading and handling equipment. "This one-man unit provides an economical way to convert any platform scale into a completely automatic bagger-weigher for grain, feed, seed, chemicals or practically any free-flowing dry materials," company officials state. The unit can be installed in less than an hour and fills and weighs 6-8 bags a minute. A belt conveyor is available for moving bags



from scale to stitcher. A free descriptive folder may be obtained by checking No. 5583 on the coupon and mailing it to this publication.

No. 6511—Forest Fertilization

The Nitrogen Division, Allied Chemical & Dye Corp., has published a booklet called, "The Use of Commercial Fertilizers—Particularly Nitrogen—in Forestry." Hermann Mayer-Krapoll is the author of the booklet, which was originally published in German and translated into English through the efforts of Nitrogen Division. The booklet's foreword states that the use of soil nutrients, with the exception of lime, has not progressed much in forestry until very recently. The one exception is in nursery management. The foreword continues: "The success obtained (in forest fertilization tests) is surprisingly great and gives reason to believe that the prospects of systemic fertilization of the forests are very promising." To secure the booklet check No. 6511 on the coupon and mail it to Croplife.

No. 5584—Paper Selector

A paper selector for multiwall paper bags, in a convenient slide rule form for easy reference, has been designed by St. Regis Paper Co. With the selector, it is possible to determine the type of paper best suited to meet individual multiwall bag packaging requirements, company officials state. Information is provided on such topics as the type of protection offered by multiwall bag papers, the properties of multiwall bag papers, a description of the various types of papers and a representative list of the products using particular

Send me information on the items marked:

☐ No. 4064—Wire Screens	☐ No. 6507—Car Apron
☐ No. 5578—Belt Conveyor	☐ No. 6508—Plant Food
☐ No. 5583—Bagger, Weigher	☐ No. 6509—Catalog
☐ No. 5584—Paper Selector	☐ No. 6510—Insect Handbook
☐ No. 5585—Distributor Head	☐ No. 6511—Forest Fertilization
☐ No. 5586—Dairy Powder	☐ No. 6512—Paper Brochure
☐ No. 5595—Scale	☐ No. 6514—Film Catalog

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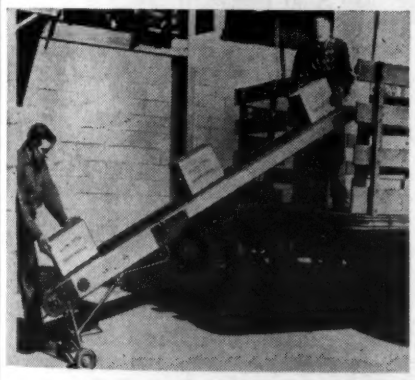
plies. Bag paper properties, a description of its construction and present product packaging applications are shown. The selector indicates which papers will provide protection against grease and oil, acid and alkali, scuff and abrasion, bacteria and insects, moisture vapor and water damage. To secure the selector check No. 5584 on the coupon and mail it to this publication.

No. 5586—Dairy Washing Powder

Pennsalt MC-3 is the trade name of Pennsylvania Salt Manufacturing Company's soapless dairy washing powder designed especially for use in hard water areas. Company officials state: "Through the addition of both nonionic and anionic wetting agents, MC-3 now has greater penetration powers and longer lasting suds for thorough and rapid cleaning action. In addition the product is now completely dust free for easier handling." The product is available in water resistant 5-lb. cans, packed 12 to the case, and in 25-, 125-, and 350-lb. full-opening type drums. For more complete details check No. 5586 on the coupon and mail it to this publication.

No. 5578—Belt Conveyor

The Seedburo Equipment Co. announces the addition of a new belt conveyor to its line of Hytrol conveyors. Called the model A "Handy Boy," it has many of the features found on the standard line conveyor. The new unit has a 10-in. Ruff-top belt on a bed made of 12-gauge heat treated aluminum. It is available in eight sizes ranging from 6-20 ft. The 10-ft. model weighs 165 lb. Optional



accessories are available for different types of jobs. For further information check No. 5578 on the coupon and mail it to this publication.

No. 5585—Electric Distributor Head

Details of the Select-A-Flo, trade name for the electrical, directional storage distributor manufactured by the K. W. Rodemich Co., Inc., are announced. The units can be installed to receive material from elevator legs, collectors, mixers, sifters, belt conveyors, screw conveyors, pneumatic systems or any other process that needs the facilities of distribution for any free-flowing materials such as grains, meals and chemicals. The unit consists of two parts, namely the indexing spout and the selector switch control board. Features claimed are: Custom built design, variation in opening discharge, remote control and reversing action. To secure more complete details check No. 5585 on the coupon and mail it to this publication.

No. 6508—Liquid Plant Food

The H. D. Campbell Co. is now offering a ready-to-use liquid plant food in a household-size plastic squeeze container. The product, called by the trade name of Gro-Green, is packaged in a 4-oz. size that is suited for the feeding of potted plants, flowers and for similar household uses. The liquid is sprayed in small amounts directly on the leaves of the plant after watering. Company officials state that "Foliage Dietene," an ingredient found in the product, makes possible successful leaf feeding by breaking down the surface tension of leaves and enabling plant nutrients to be quickly and completely absorbed by the leaf surface. To secure more complete information about the product and quantity price quotations check No. 6508 on the coupon and mail it to Croplife.

OVER THE COUNTER

(Continued from page 9)

pared county statistics from the U.S. Agricultural Census for nine counties in east Tennessee having eight or more community clubs with figures for nine other east Tennessee counties that have three or fewer clubs. These figures, although admittedly influenced by other factors also, definitely support the growing belief that organized communities are a definite factor in both rural and urban progress.

The counties with eight or more clubs, for example, showed a higher proportion of modern conveniences. The "many club" counties had half again as many telephone and TV sets for the same number of farm families. The same was true for running water, automobiles, tractors, pickup balers, power feed grinders and pig brooders.

The counties with the most community clubs had two to three times as many field forage harvesters, corn pickers, and milking machines as the other group of counties. A larger proportion of farms had electricity, and farms in this group used a third more fertilizer per acre.

Further, the counties with the most organized communities showed more rapid progress over the past five years in most of the items studied.

After 10 years of organization, a mountainous 60-farm community in North Carolina had doubled original crop yields for some crops. Livestock numbers increased and considerable machinery was purchased. Home improvements multiplied. Such improvements obviously meant that local merchants benefited also from the community's progress.

What does all this boil down to? It adds weight to the conclusion that a community club is an effective way for families to unite their efforts for improved schools, roads, churches, markets for special crops, and other benefits. It provides a workable unit for obtaining educational know-how in farm and home management and other fields; for the exchange of ideas among the community's families; for encouraging and inspiring progressive action.

Together, the Mississippi, Tennessee and North Carolina data show that it can be worthwhile for a dealer to spend considerable time in his rural area each year, encouraging and helping community clubs and helping his own business in doing so.

SEED COMMISSION

ALBANY, ORE.—The Linn County Farm Crops Committee and a group of growers from Lane, Benton and Marion counties recently voted 29 to 1 to go ahead with plans for organization of a ryegrass seed commission. Growers indicated they believe there is a vast market in the Midwest and South that can be tapped with aid from advertising and other promotional methods.

FARM SERVICE DATA

Extension Station Reports

Citrus replants will grow satisfactorily on old citrus soil if it is thoroughly fumigated to get rid of nematodes.

Scientists at the University of California, Riverside, have reached this conclusion after extensive tests of chemicals that kill the tiny, worm-like parasites that feed on roots, decreasing vigor and growth rate of trees as well as yield and size of fruit.

Nine out of 10 California citrus orchards are infested with the citrus nematode, surveys have shown. Although it does not kill trees, it often reduces growth 40 to 60 per cent in young lemon and orange trees.

Tests at the Citrus Experiment Station here have shown that trees on fumigated soil produced almost eight times more fruit per tree than those on unfumigated soil. The fruit was larger.

Studies of the problem in Southern California have been conducted by Dr. Richard C. Baines, plant nematologist, and Dr. James P. Martin, associate chemist, in cooperation with Fred J. Foote, director of research for Limoneria Co., Santa Paula.

★

Livestock pests each year cost the livestock producers in this country about $500,000,000, said H. C. Manis, head of the entomology department at the University of Idaho, in a discussion of external parasites at the annual livestock-dairy short course. These losses, he added, come mostly in wasted feed, lower production of meat and milk, and damaged hides.

In a discussion of internal parasites, J. S. Dunlap of the department of veterinary pathology at Washington State college, declared that internal parasites, which cannot be seen, cause just as much damage and loss as do those working externally.

Mr. Manis declared that the livestock producer who does not have a sound insect control schedule is not realizing the full production potential of his animals. "Neglect in this respect may be the difference between the producer who makes a profit during tough times and the one who either hangs on by a shoestring or goes out of business entirely," he commented.

★

The quality of Oregon Merion bluegrass as reflected in the germination test is higher this year than in previour years, reports Mrs. Louisa A. Jensen, technologist in charge of the Oregon State College cooperating seed testing laboratory, Corvallis. Mrs. Jensen stated that the majority of the number one lots of seed have been from 87% to 93%. In previous years they have been approximately 80%. With this good quality, there has been some dormancy, which needs special attention and an extension of the germination period, she stated. The technologist also pointed out that Highland bentgrass has been of good quality without the presence of disease. Dormancy has been a greater problem than in recent years. Many lots have resisted efforts to obtain optimum germinations quickly.

★

Recent work conducted by C. G. Woodbridge of the Canadian Department of Agriculture at Summerland, B.C. substantiates conclusions reached in Washington concerning the need for boron in fruit trees.

Previously, Dr. Folke Johnson of the Western Washington Experiment Station had conducted studies on symptoms of boron deficiency in pears. The British Columbia work indicates that deficiencies in several fruit trees are similar to those found by Dr. Johnson.

Spring dieback of branches, which caused great losses in pear production in Central Washington, was studied by Dr. Johnson. He was able to bring many of these orchards back into production by the application of boron sprays during October.

Other observations in Washington have noted that pear decline has been arrested and orchards brought back into heavy production by the application of spray materials containing boron and by the use of fritted trace mineral combinations containing boron.

★

Nitrogen fertilizer boosts corn yields in Central Texas, but the use of nitrogen on corn following clover increases production even more. This has been proved by tests at the Blackland Experiment Station, which is under the supervision of Dr. R. M. Smith.

Corn which received supplemental irrigation made only 31 bu. per acre where no nitrogen was used. Corn receiving nitrogen produced 56 bu. per acre, but corn following clover and also receiving nitrogen made 78 bu. per acre.

Tests with cotton were somewhat similar in results. Cotton unfertilized and grown on land that had been in cotton for a number of years made from 143 to 206 lb. lint per acre. On land where clover was grown the previous year, cotton receiving nitrogen made from 224 to 262 lb. lint per acre.

Dr. Smith said plowing also had a lot to do with yields. At the station the land was plowed just as soon as the crop was harvested, and caught 13 inches of rain during August. Much of this subsoil moisture remained in the soil to help make the 1956 crop.

★

Late fall is the time to fertilize orchards, reports Dr. Robert A. Norton, assistant professor of horticulture, Utah State Agricultural College.

Fertilizer is slowly carried into the soil with melting snows in the spring. Thus it is in the plant ready to go to work when spring arrives, he adds.

Dr. Norton says the harvest season is the time of year when fertilizer needs can best be determined. The tree condition is the most reliable means of deciding most fertilizer needs.

He says the length of terminal growth, leaf size and color, fruit size and color should all be taken into account. When fertilizer is applied in late November and early December or early spring only terminal growth can be observed. This doesn't give a complete picture.

The USAC specialist adds that just following harvest time growers can best determine whether insufficient terminal growth is due to shortage of nitrogen, freeze damage, or other causes.

NO PROFIT IN TRADITION

Old Firm Keeps Up to Date on Merchandising, Selling Methods

By JESS F. BLAIR
Croplife Special Writer

The Rasmussen's Grain Store in Ogden, Utah, is one of the oldest grain companies in the county. But unlike some old companies, it has continued to grow, shedding old buildings and equipment and adding new ones as the business continued to expand. Now housed in a large, attractive brick building with a warehouse equally as well-designed, it is one of the most eye-catching places in town.

Also the store changed its pattern of operations to fit needs of the customers. Once it was strictly a feed and grain store; now a large part of the sales come from farm chemicals, irrigation equipment, garden and orchard supplies. Inside the store is arranged with original island displays, with each one being different from the others, yet placed where the customer coming in the front door can see every one from one position.

Neal Rasmussen, manager, who is now co-owner with his father, says that looks and arrangement of a store contribute much to the volume of business done.

"Things have changed the last few years," he said. "The city and valley have grown and competition is much keener. We've got to compete not only with other farm stores, but with department and drug stores as well."

One way to meet this competition is to stock a better quality merchandise and give more personal service.

"For instance," Mr. Rasmussen continued, "the department stores sell small plants for a few cents each. We stock bigger plants for a higher price, and have beautifully designed pots and holders to match. Our sales are not so many, but when a home owner wants to beautify his place, we get our share of the business."

In the farm chemical field, Mr. Rasmussen found that personal service was a great aid to more sales. Farmers, gardeners and orchardists seldom keep up with the new chemicals being developed, so they must depend upon someone for advice when buying them. Mr. Rasmussen has devised charts of different crops and shows the kind of insects that attack them. These are posted on the walls in plain view of people entering the store.

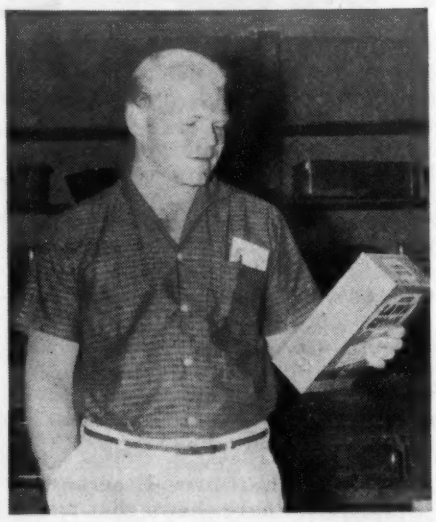
This includes not only field crops, but apples, cherries and vegetables. It tells the seasons when the insects attack, and the proper insecticides to use. Customers are also warned about careless handling of these toxic chemicals.

"This area rimming the Great Salt Lake has become densely populated the last 15 years," Mr. Rasmussen said, "and farms are close together. By pointing out these dangers we save the farmers embarrassment and possible law suits."

Fertilizers are also widely used in the Ogden section. Mr. Rasmussen knows the various soils and the fertilizers needed for best results. He keeps in close touch with the Soil Conservation Service, county agricultural agent and various plant and insect specialists.

"These fellows know the latest developments," Mr. Rasmussen said, "and are very cooperative about passing on the information to us."

He also has a large motor-powered sprayer which is kept busy in season spraying fruit trees. This not only



UTAH DEALER—Neal Rasmussen is co-owner and manager of Rasmussen's Grain Store, Ogden, Utah. The firm's new store, built several years ago, is one of the most modern in the area.

★

brings in extra income, but also creates new business on other items. If they spray a man's fruit trees, quite often he becomes a regular customer for all his feed and fertilizer needs.

"One advantage of a well-arranged store is the amount of impulse buying involved," Mr. Rasmussen said. "We always put the new items out where people can see them. Then when they come in to buy some regular item, they see new products. I haven't kept a record on impulse buying, but it seems to be running pretty high."

Rasmussen's has an advertising program based upon the volume of sales. It includes TV, radio and newspaper advertising, as well as occasional direct mailing.

"Some stores advertise only at certain times of the year or else keep the same kind of ad running until it's tiresome," Mr. Rasmussen said. "We try to change the type often and write it in such a way that people will take notice. I believe the store is known to everyone in this area, yet we keep telling them that we want their business and what we have to offer."

Because the store is arranged where customers can serve themselves, only three fulltime employees are needed most of the year. There are two men and one woman besides Mr. Rasmussen himself. He finds his lady clerk, Mrs. Lena Barkdull, especially valuable in selling plants and home and garden needs.

The Rasmussen firm started 33 years ago with Neal Rasmussen's grandfather. The business was turned over to Neal's father in 1945, about the time when the son was mature enough to make a good hand. Now father and son operate the business, though most of the management falls upon young Rasmussen.

"Rasmussen's has quite a tradition in Ogden," he said, "but you can make a profit on tradition. Just the name won't keep any business going. Every day is a new one; competitors are springing up all the time, and the products and selling methods are changing. We've got to keep thinking up new ways of selling and being of greater service to our customers.

"Only by doing that will the firm of Rasmussen continue to make us a living and be a credit to the city."

Oregon Fertilizer Sales Hit New High In Third Quarter

PORTLAND, ORE.—Oregon fertilizer sales through Sept. 30 exceeded all of last year's fertilizer sales by almost 29,000 tons, says J. D. Patterson, chief chemist for the state department of agriculture, in his third quarter inspection feed report.

Total fertilizer sales for this year's first nine months were almost 166,000 tons, an all-time high for any nine month period and for any year.

Agricultural mineral sales also reached an all-time high for any nine month period and for any year. As of Sept. 30, agricultural mineral sales totaled 16,715 tons, which is 103 tons above the previous all-time high set last year.

The inspection fee report also shows Oregon agricultural lime sales in July, August and September almost doubled these sales from January to June of this year.

Lime sales throughout Oregon were 27,293 tons during the third quarter and 14,617 tons in the first two quarters of 1956. However, lime sales through June 30 were the lowest for any six months recording period. All figures on the inspection fee report do not include sales of 5 lb. or less.

Liquid Fertilizer Sprayed by Helicopter

SALINAS, CAL.—Liquid fertilizer was sprayed by helicopter for the first time in Monterey County, California, history recently. Not only was it the first such operation in the county but also the first by the chemical company applying the mixture.

The spraying took place on 30 acres of Art Claassen's ranch. A mixture of 8-24-0 was used at the rate of eight gallons per acre. The helicopter applied the material from a 30-foot boom under the craft and tried to keep within ten feet of the ground. Mr. Claassen applied granulated 16-20-10 to a test plot by hand in addition to the helicopter application.

PECAN BULLETIN

STATE COLLEGE, N.M.—J. V. Enzie, head of the New Mexico A&M horticultural department, and R. E. Harper, associate horticulturist, are authors of a new bulletin entitled "Pecan Production in New Mexico."

ADVERTISING AWARD—J. W. Miller, left, executive vice president of Brea Chemicals, Inc., is shown accepting the western state farm papers medal award from Wheaton H. Brewer, executive advertising director of California Farmer. The award was given by the Advertising Association of the West for Brea's farm paper advertising campaign. The award-winning campaign, following a farm fertilizer news format, was directed by Charles Bowes Advertising, Inc., with Nelms Black as account executive and Byron Reynolds as art director. Robert E. Brandson, now sales manager for Brea's northwest district, was Brea's advertising manager.

Mobile Salesmanship Builds Business for Arizona Retailer

"The fellow who puts in a store and then starts reducing prices to jack up a sagging business will cut his own throat," said Tom Martin, owner of Martin's Feed Store at Wilcox, Ariz. "These guys are a nuisance, but one thing I've learned from them: I will slice my own throat if I try to compete with them. If the other fellow wants to sell at wholesale, then let him do it. He won't be in business for long."

Mr. Martin says the temptation has been great the last few years. Southern Arizona is having one of the worst drouths in history. Cattle have been driven to market and farmers are fighting a battle for existence. All business is down, but particularly the businesses directly related to agriculture.

While some other store owners have gone broke in that section of the state, Mr. Martin still hangs on and makes a living at it. And he hasn't had to cut prices either.

When the squeeze came along, he reduced his sales force to himself and one man. Also he decided to do a little personal salesmanship. By reducing inventory, he decided to handle part of the business on a contract basis.

Now when a rain comes to one area, he's out there immediately calling on ranchers or meeting them in town. They'll need some salt, so he takes the orders and in a couple of days makes delivery. If he kept it in stock beforehand, the rain might not come and the salt would gather dust for six months or more.

He also keeps in touch with the farming area several miles to the south. When boll worms or aphids or fleahoppers start working, Mr. Martin is also likely to be out there selling insecticides.

By using this type of mobile salesmanship, he can keep a low inventory, hold overhead to a minimum and still make enough profit to stay in business.

"Believe me," he said, "since the big drouth hit, I've learned more about running a business than I ever knew before. When the rains come back, as they surely will, I hope to put this experience to some use. It's taught me the value of good management, and I certainly won't make the same mistakes over again."

Systemics Show Promise in Spotted Aphid Control

SACRAMENTO — Experiments at the Riverside campus of the University of California with some systemic insecticides indicate they may be an effective weapon against the spotted alfalfa aphid and other pests.

When applied directly to seed or drilled into the ground in granular form, these insecticides appear to kill a wider range of pests than when sprayed on plants, according to Dr. Harold T. Reynolds, associate entomologist, who is directing the experiments.

In the case of alfalfa seed, he says, systemic insecticides protect young plants from the aphid for as long as six weeks when they are most vulnerable to attack. The insecticides lose their toxicity before harvest eliminating the danger of residues.

This new technique has also proved effective in protecting alfalfa, cotton and sugar beet seedlings from cutworms, thrips, flea beetles, leafhoppers, white flies, mites and leaf miners.

FARM PROJECT

(Continued from page 9)

Since the project was finished Mr. Benedict not only is keeping up the improved practices, but also has boosted fertilizer use a little.

A year ago, at the annual meeting of the Pacific Northwest Plant Food Assn., it was reported that silage production on the farm increased from 49 tons in 1951 to 412 tons in 1955. In 1951 the farm had 23 head of cattle, a herd which had increased by 1955 to 65 head. Butterfat average for 1955 was 385 lb., compared with 280 lb. in 1951.

In selecting a demonstration farm for Oregon, the association looked for a typical farm, and not a run-down one. One of the purposes of this demonstration was to show how to make the same amount of land support more cows, and thus help the farmer meet the cost-price squeeze.

Chosen was the Lennox Blatchford farm, near Portland, in Washington County.

Sinee 1956 is the first year for the demonstration, not many facts and figures have yet been tallied up, but those that have are all on the encouraging side.

One field on the 83 acre farm had been seeded in spring grain for "no one knows how long," with 1955 yield reported at 6 to 8 bu. an acre. This was seeded to a pasture mixture and spring oats last April.

It received an application of 500 lb. 5-10-10 an acre on April 23. The field produced at least 50 tons of silage and is now well established with a pasture mix of grass and legumes.

Another 3 acre field produced more than 2 tons per acre of wheat after receiving an application of 300 lb. ammonium nitrate an acre on April 10.

In 1955, in 1,107 average cow days per month, the dairy herd produced an average of 649 lb. of milk per cow, while in 1956 in 981 days, 636 lb. of milk per cow per month were produced. This means that in 126 less cow days per month, the cow average production was only 13 lb. of milk per month less. This actually represents an 11% increase in production per cow.

"Last year on this farm we produced 90 tons of hay and 135 tons of silage," Palmer S. Torvend, Washington County agent, reported.

"This may seem to be pretty close to what was produced again in 1956 when the silage production was 150 tons, hay production was 50 tons, wheat a little over 6 tons.

"However, during 1955 the farmer was short of feed. This year he has had ample pasture. In fact, he has carried 50 cows on 17 acres of pasture from April 15 until Sept. 1. In addition, he has taken into account the fact that some of the program on the farm has been changed so that there has been very little production on some acres."

In addition, the farm supported 15 pigs in 1956, compared with two in 1955, and 19 sheep, compared with 12 last year.

A big point in the Oregon project, as in the other two, is to show the economic benefits of fertilizing pasture land. The Blatchford farm is typical of those in the Willamette Valley, and by means of field days and other publicity the association hopes to get the story of the project widely distributed.

One of the best salesmen of the project is Mr. Blatchford himself.

"The fertilizer program really made the difference," he said. "There is no question but that I will continue with it after the project is completed. We're sold."

California Ranchers Seeding by Air

EUREKA, CAL.—Humboldt County ranchers are planting grass seeds in old timber stands by airplane this fall in order to increase pasture lands.

The old timber stands are first burned over to get rid of slash and refuse after which seeding takes place. Considerable additional range land is then provided for the ranchers.

Three types of grasses, rye, orchard and fescue are used in quantities varying from 10 to 20 lb. per acre. If the farmer or rancher is participating in the conservation program and is receiving partial reimbursement from the federal government for his improvement work, he must use at least 20 lb. per acre.

Les Pierce of Pierce Flying Service is regularly contracted to do the seeding and can seed up to 10,000 acres a day. He recently fertilized the Fort Seward ranch for the first range fertilization by air in Humboldt County.

Two Pesticide Meetings Set for North Carolina

RALEIGH, N.C.—Two pesticide meetings are scheduled to be held at North Carolina State College in January, according to Clyde F. Smith, head of the department of entomology.

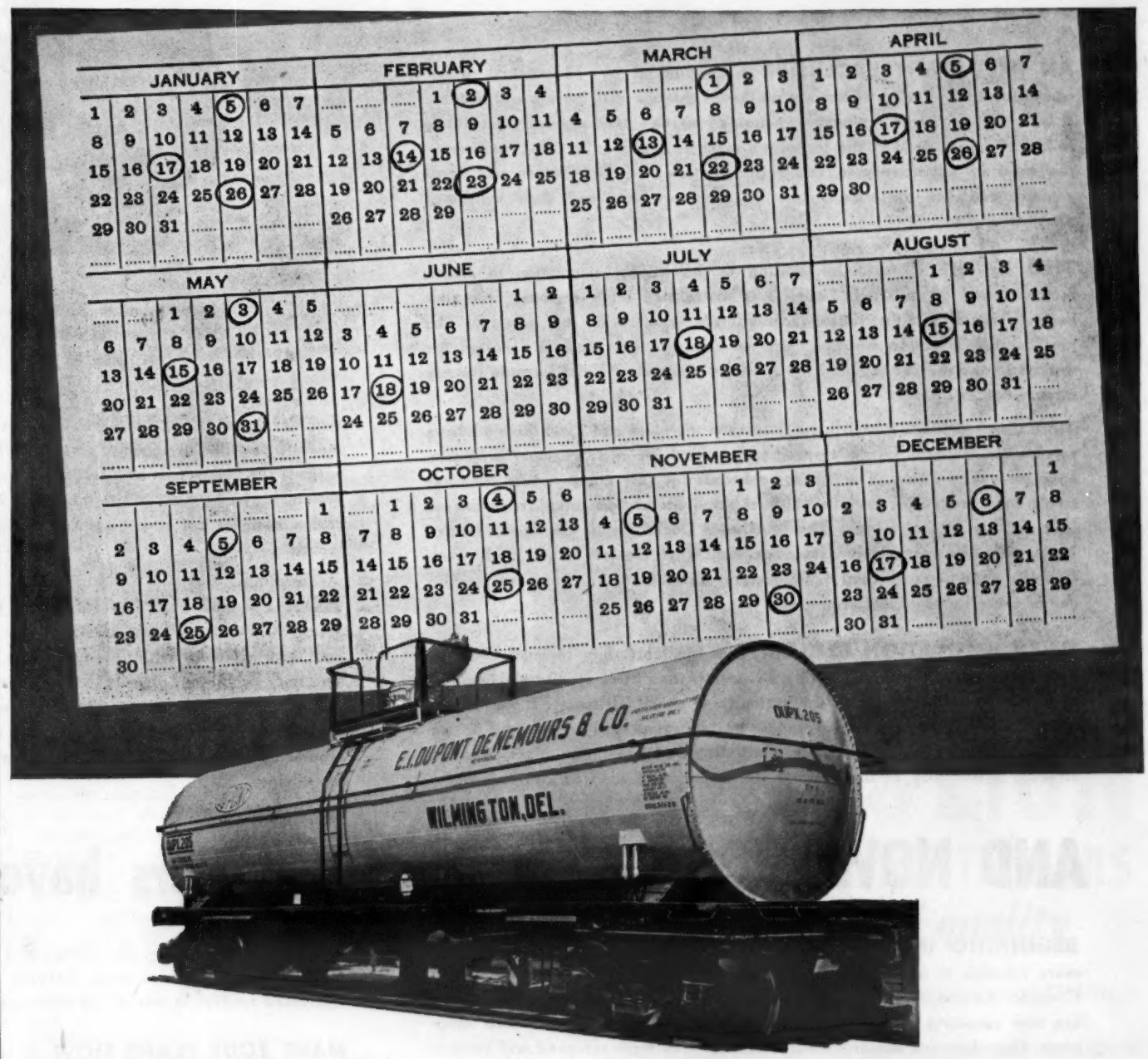
On Jan. 10-11, the annual pesticide school will be held at the college Union, and Jan. 15-17 the annual North Carolina Pest Control Operators' Short Course will be held in the Union.

Walter E. Fleming Heads New Jersey Entomologists

NEW BUNSWICK, N.J.—Walter E. Fleming of the U.S. Department of Agriculture Japanese Beetle Laboratory in Moorestown was elected president of the New Jersey Entomology Club on Nov. 29 in the Roger Smith Hotel. He succeeds C. C. Alexander of the Geigy Chemical Co. of Yonkers, N.Y., formerly of Bayonne.

Dr. Clyde C. Hamilton, entomologist at the College of Agriculture, Rutgers University, is vice president, and Dr. Leland G. Merrill, Jr., extension entomologist at Rutgers, was continued as secretary.

The speaker was Dr. D. M. Jobbins, Rutgers entomologist whose specialty is mosquito control. His



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AN IMPORTANT EXCLUSIVE is available to advertisers whose agricultural chemical products are marketed through distributors and dealers. It is Croplife's unique *regional crop-area circulation plan*, carefully developed to fill an urgent need in the industry's marketing and advertising facilities—the need of advertisers to reach the dealers and distributors and farm advisers with an up-to-date story of their products and their consumer promotion plans.

THIS IS THE PLAN: In addition to the weekly circulation to manufacturers and formulators, Croplife is distributed on a regional crop-area basis to the dealer-distributor-farm adviser segment of the industry. The merchandising section in each issue of Croplife is specifically edited for dealers in one specific region. This carefully planned editorial formula insures intense reader interest.

More than 15,000 DEALERS, 1,700 custom operators and 1,000 farm advisers receive the issue of Croplife specifically edited for their regional crop-area once each four weeks. The mailing schedule for this group covers consecutively four geographic regions of the United States (see map) with one of four regional dealer issues: The Northeast Dealer Issue, the South Dealer Issue, the Midwest Dealer Issue or the West Dealer Issue. Each week Croplife goes to more than 4,500 dealers, distributors and farm advisers in one of these four regional crop-areas.

THIS CIRCULATION EXCLUSIVE is available only through Croplife. The regional crop-area circulation to dealers has been carefully developed to fit the particular needs of the agricultural chemical industry. Many individual products have been developed and approved and are being sold for use on a specific crop; therefore, marketing and promotion plans must be directed specifically to the appropriate crop-area. Croplife's dealer circulation developed along crop-area lines offers advertisers the *most flexible medium possible*, designed to give "direct-hit" coverage for specific messages without the higher cost of a larger-than-necessary circulation on an inflexible nationwide basis. Advertisers interested in reaching dealers in more than one region can do so easily and economically with a selective advertising schedule.

In addition to its national coverage, Croplife offers a selective regional circulation plan in these crop-areas

HOW TO USE THE PLAN: Select the regional crop-areas—Northeast, South, Midwest or West—in which you need to reach dealers, distributors and farm advisers with the up-to-date story of your products and your consumer promotion plans. Plan your message to inform and to educate this group. Then, select the appropriate issues of Croplife to carry your advertisements. Croplife's printed circulation statement outlines the four regional crop-areas in detail and gives the issue-by-issue mailing schedule. Ask us for a copy.

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Doing Business With

Oscar & Pat

By AL P. NELSON
Croplife Special Writer

It was snowing quite hard when Oscar Schoenfeld came home from the store that December evening. He went down the cellar stairway, took off his galoshes and placed them by the floor drain, took off his storm coat and hung it on a hanger and laid his fur cap on a rack. Then carefully wiping his feet on an old rug, he went up the stairs.

"Ach, sauerkraut and spareribs!" he said sniffing eagerly. "That is just what I wanted, Minnie."

Minnie, her hair done in a tight black knot at the back of her head smiled quickly, nervously. It was not often she had a compliment from the strait-laced, plotchy Oscar who thought a schedule adhered to was the most wonderful thing in the world, and that when things were orderly, and did not change—that was happiness.

"I will read the paper till supper is ready," he said, going into the parlor.

Shortly his voice came drifting into the kitchen. "Ach, I see one of my shoelaces has broken. Where do you keep them, Minnie?"

"I will get them, Oscar," she called eagerly. Then, "Do you want one or two?"

"One, of course," Oscar thundered. "You know very well it is foolishness to put in two new laces, when I need only one. I have told you that before."

"I know, but—"

"But, nothing," he exclaimed. "First thing you know you will be getting as extravagant as Pat McGillicuddy, him always spending, always throwing stuff away. Huh—two new shoelaces, when I need only one. That's what's wrong with this country—people don't cut expenses. They should save more. Then taxes and the cost of living would go down, I can tell you."

Minnie came dutifully with the new shoelace. By this time Oscar had his shoe off and the old lace out. He handed the old lace to Minnie. "Tie it together," he said, "and wind it on the ball of string. Let other people buy expensive binder twine to tie up their newspapers. Not me. I make use of all the old shoelaces we have, Minnie, and all the scraps of string. I do not waste a thing, no siree. I hate to think what would happen to our business if I wasn't there. Ach, we would go broke in two weeks, with that Pat around alone."

During the dinner, Minnie looked a little perturbed. Finally, after Oscar had his second cup of coffee, she said: "Oscar, there is a hole in one of my galoshes. They are three years old now. I can get a new pair at Pettingill's for only $4.98. They have a sale this week."

Oscar frowned, as he always did when the matter of spending money came up. People often wondered if Oscar expected things to last forever, which he practically did. "Let me see them," he said, "Maybe they can be vulcanized."

Sadly Minnie brought the pair of worn galoshes. Oscar inspected them carefully. "Ach, there is only a little hole in the one galosh, Minnie. We can have Godfrey, the filling station man, vulcanize that—for 25 cents."

Minnie swallowed hard. "He did a pair of rubbers for me last spring," she offered weakly. "But the patch always has a red stripe around the black part. People can see it. I feel so ashamed."

Oscar's face took a hard line.

"How would it look for me to have such a patch when we walk to church?" Minnie asked defensively. "People could see it. And us with our home paid for, money in the bank and bonds and things like that. Oh, Oscar."

Oscar looked at the offending galosh once more. "The hole is on the side, Minnie. When you walk people will not see the red lines on the patch because it is on the lower inside part of the galosh. Really, I am surprised at you. For a 25 cent patch, you can get another year's wear out of this galosh. Look at me, I am wearing my felt hat for the fourth year. I spent a half a day on Labor Day cleaning it myself. Let us not get like Pat and his wife. I don't know what's the matter with people nowadays. Money burns a hole in their pockets."

Minnie sighed, took the galoshes, looked at them ruefully and disappeared into the kitchen. Oscar picked up the evening paper and began reading it again. Suddenly his eyes lighted. "Ach!" he said excitedly. "I bet I could do it."

"Do what?" said Minnie coming from the kitchen.

"Why should I pay for an evening paper every day," Oscar asked enthusiastically, "when the hotel has lots of papers to throw away? I go right past the hotel every night coming home. Ach, I can drop in and ask them for the morning paper. The news will be a few hours late, but I won't notice that after a few days."

Minnie stood and stared in admiration. If there was one thing she admired about Oscar, it was the fact that he was always able to come up with ideas about cutting costs, in the business and at home. Sometimes these ideas infringed upon her domain —the home—and also upon her person, but she did like all that money in the bank and paying bills the minute one got them, taking the discounts and walking downtown, happy that one didn't owe a penny to anyone that one couldn't pay, and seeing other people, heads and shoulders bent with debts, installment plans, 20 year mortgages, etc.

The telephone rang, and Minnie answered. "It's for you, Oscar," she said.

Pudgy Oscar got up from his chair and went to the telephone. If it was the church treasurer, asking for a special donation for the manse's new furnace, he would tell him a thing or two.

But no, it was Henry Autz, a farmer on Rt. 4 who bought feed and fertilizer from Schoenfeld & McGillicuddy, a fellow who paid his bills promptly sometimes, and who sometimes took a long time to pay.

"Hello, Oscar!" yelled the jovial Autz. "I telephoned Pat, but Nora and him are at some Christmas party."

"Yes, we close at 5:30 in the winter," Oscar said exactly. "We open at 7 in the morning."

"Heck, I know that," Autz shouted. "But I want to put my order in now for 10 tons of fertilizer at that special price."

A chill ran through Oscar. "What special price?"

"The ad! The ad. I was down at the print shop gettin' my printed Christmas cards and I saw the proof of your ad that is comin' out tomorrow."

Oscar swallowed hard. "W—what does it say?"

"What does it say? Why it says that farmers should give themselves a Christmas present by placing their fertilizer orders during Christmas week. It says that every farmer who orders fertilizer that week will get an extra $3 a ton discount as a Christmas present. Why, Oscar, if I order ten tons—and I gotta have them next spring—I'll save $30." The farmer laughed loudly. "That'll pay for my Christmas presents. By golly, it means you and Pat'll be paying for my Christmas presents. I just called to put in my order and thank you fellows fer giving me such a nice Christmas present. Lemme know when you give a special Easter price on field seed, will you?"

Oscar's face was white when he put down the receiver. "Again he gives something away! Ach, what is the use? I save and save and then Pat goes crazy and gives it all away. What's the matter with business men today? They are so crazy to give stuff away. Why not sell all the time and keep the whole selling price, and get cash when you sell? Minnie, the country is going kapoot. I think I will have a drink of that dandelion wine I made last summer and go to bed."

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Stocks of "Horse & Lion" nitrogen fertilizers are carried at San Diego, Los Angeles, Port Hueneme, Oakland and Port of Stockton, California; Portland, Oregon; Seattle, Washington.

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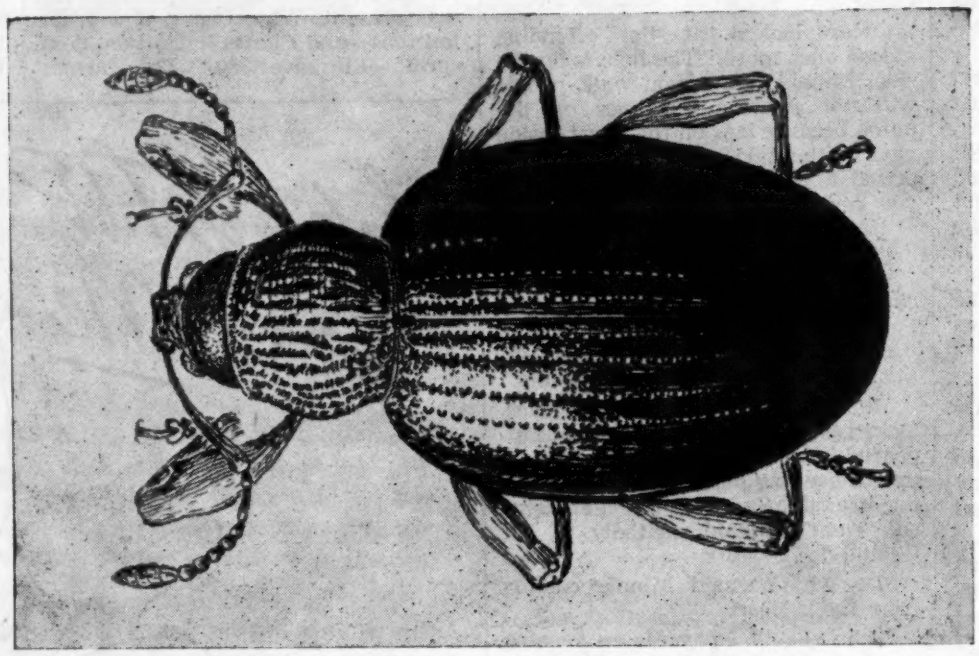
BUG OF THE WEEK

Mr. Dealer--Cut out this page for your bulletin board



Strawberry Weevil

How to Identify

The adult weevil, illustrated above, is described as being reddish-brown in color, measuring from 1/12 inch to ⅛ inch in length. Young grubs of the species are soft-bodied, white and legless. They remain in this stage for about 4 weeks before entering the pupal stage.

Habits of the Strawberry Weevil

Adults are active during the early part of the summer, feeding until about mid-summer, then going into hibernation, sheltered under trash, where they remain for the rest of the summer, fall and winter months. Emergence from this stage is in the spring. The female weevil makes a puncture in the strawberry bud and inserts an egg. The young grubs that hatch within the bud feed on it and stay on through their pupal stage, emerging as adults.

Damage Done by Weevil

As indicated above, the strawberry buds are killed through the egg-laying of the adult beetle and the feeding of the young within the bud. Infested strawberry plants are characterized by killed buds and fruit hanging on partly-severed stems. In addition to strawberries, the pest attacks wild blackberry, raspberries, and dewberries. Its distribution is in the eastern part of the U.S.

Control of Strawberry Weevil

A number of insecticides, both old and new have been recommended in various states for control of this pest. In view of the possibility of residues remaining on the berries, extra caution should be taken in applying any toxicant. State experiment station entomologists and county agents should be consulted for local recommendations for this year.

Illustration of Strawberry Weevil furnished Croplife through the courtesy of the U.S. Department of Agriculture.

Previous "Bug of the Week" features have been reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.

KENTUCKY MEETING

(Continued from page 1)

chlor, applied at the rate of two-irds of a pound to one and a third unds an acre. Applications may be ade in emulsion concentrate, granu- or as fertilizer mixture, it was inted out. Emulsion concentrates e sprayed in bands at the row, using planter-sprayer attachment, granu- insecticides are applied directly ring planting with a planter-attach-ent, and fertilizer-insecticide mix-res also may be applied with an at-chment to the planter, speakers id.

It was observed, however, that robably no more than 5% of Ken-ucky's corn growers have planter-ttachments. This would practically ule out the application of either ertilizers or insecticides at the ow.

Insecticides may be broadcast, or ey can be mixed in granular form ith fertilizers, a rather simple and sy method probably favored by any farmers. However, the problem getting the proper amount of either not so easy. At the same time, it as stated that all corn growers ould find it profitable to control ests.

Aldrin or heptachlor at the rate of ur to five pounds an acre was rec-mmended for strawberry pests, in-uding ants, rootworms, grubs and ireworms. Chlordane may be used the soil for about all crops, the pplication rate being 8-10 lb. an acre.

Wireworms were the principal to-acco pest discussed. Recommenda-ons for their control included the llowing materials and rates of ap-lication an acre: Aldrin, three ounds actual; chlordane, six pounds ctual; dieldrin, one and a half ounds actual, and heptachlor, three ounds.

Fertilizer-insecticide mixtures were not recommended by the Experiment Station except as custom mixed.

It was stated, however, that mix-ures of fertilizers and insecticides as ecommended by the Kentucky Ex-eriment Station would be effective nder the following conditions:

1. Aldrin and heptachlor at 0.33% ctual in mixture.
2. Suggested ratios of fertilizers for he fertilizer-insecticide mixtures are -1-1 and 1-4-4.
3. Rates of application must be 200 o 400 lb. an acre, banded at the row.
4. The mixture must not be applied n contact with the seed.

The following statement was given ut on the registration of fertilizer-nsecticide mixtures:

"Aldrin, heptachlor and chlordane re the only insecticides presently sted by the Kentucky Agricultural xperiment Station for use in ferti-zer-insecticide mixtures. These are sted for use only on corn and straw-erries in registerable fertilizer-in-ecticide mixtures. Other fertilizer-nsecticide mixtures are to be com-ounded on a custom or mixed-to-rder basis.

"The sale and distribution of fertilizer-insecticide mixtures containing aldrin or heptachlor at a half-pound actual per 100 lb. and chlordane at a pound actual per 100 lb. for strawberries; and aldrin or heptachlor at a third of a pound actual per 100 lb. for corn will be licensed for the 1957 season for application as specified. Licenses will be issued for the formulations of fertilizer-Aldrin, fertilizer-Heptachlor and fertilizer-Chlordane mixtures listed by the Experiment Station."

Bruce Poundstone, head of the eeds and Fertilizer Department, resided at the meeting. Speakers in-luded Dr. J. G. Rodiquez, Dr. C. E. haplin, Dr. E. C. Doll, Dr. Mallory oush, Charles Bortner, Harold Mill-r and David Daugherty, all of the xperiment Station staff.

Oregon Dairyman Named Northwest Grassman of the Year

PORTLAND, ORE. — A Tillamook, Ore., dairyman last month cashed in on his many good farm and pasture management practices to win the coveted Pacific Northwest "Grassman of the Year" award of the Portland Chamber of Commerce.

Hans Leuthold, who carries a herd of 100 registered Guernseys on 60 acres of Tillamook County land, received a $750 cash award from R. M. Wade & Co., Portland, along with a gold trophy. He was selected over Claude (Cub) Palmelli, Chehalis, Washington state grassman, and Harry Noh, Roger, Idaho, cattleman and grassman winner for his state.

Mr. Leuthold also received a $300 award for winning the Oregon grassman title. Alvin Wagenblast, Lexington cattleman, received a $200 award for being second in the Oregon contest. Both Oregon men received plaques.

Among features of Mr. Leuthold's grass program is his management plan which takes the guess work out of farming. He calculates his irrigation on the basis of soil and soil moisture tests. Pasturing is carefully controlled by Mr. Leuthold and liberal amounts of lime, commercial fertilizer and barnyard manure are applied.

The Tillamook dairyman was the sixth person to win the regional title since the contest was originated by the Chamber's agricultural committee.

SOUTHERN FARM FORUM

NEW ORLEANS — The tenth annual Southern Farm Forum is scheduled to be held at the Roosevelt Hotel in New Orleans, Jan. 24-25. The theme for this year's Forum is "Does Federal Policy Shackle Southern Farmers?"

Virginia Sales Show Decline in First Nine Months

RICHMOND, VA.—Fertilizer sales in Virginia during the first nine months of 1956 totaled 674,677 tons, compared with 707,649 tons during a comparable period in 1955, according to the Virginia Department of Agriculture.

The 1956 figure includes 590,680 tons of mixed goods, compared with 617,353 a year earlier, and 83,997 tons of materials, down from 90,296 in the first nine months of 1955.

Included in mixed goods sales this year were 158,825 tons of 2-12-12, 123,582 tons of 5-10-10 and 60,171 tons of 5-10-5.

IRRIGATION CONFERENCE

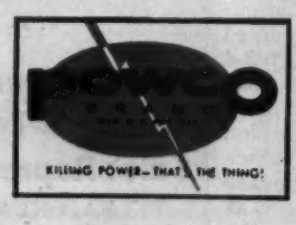
DAVIS, CAL.—An irrigation conference will be held at the University of California Davis campus Dec. 19-20.

ON YOUR MARK! for fertilizer mixed with Powco Brand Aldrin

Next season growers everywhere will race for bigger yields than ever. Odds are they'll be betting on a fertilizer mixed with Powco Brand Aldrin. Who wouldn't—considering the terrific success with Powco Brand Aldrin in 1956?

So—it is to the advantage of all insecticide and fertilizer dealers and formulators to be sure there's enough fertilizer mixed with Powco Brand Aldrin to satisfy grower demands.

Root worms and other soil pests that attack such crops as corn, cotton, peanuts, wheat, barley, rye, oats, and tobacco won't wait. Why should you? Get complete details from your nearest distributor of famed Powco Brand Aldrin.



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Phytopaths Report Results On Plant Disease Studies

CINCINNATI, OHIO—The American Phytopathological Society held its 48th annual meeting at the Netherland-Hilton Hotel here Dec. 5-8, to discuss control methods for many plant diseases. The use of fungicides. soil fumigants, and antibiotics were covered in the various papers presented at the conference.

Tillage practices carried out for the purpose of soil conservation, may be the underlying reason for the cyclical occurrence of dwarf bunt disease on winter wheat grown in the Pacific Northwest, according to plant pathologists C. S. Holton, E. L. Kendrick and J. P. Meiners, of Washington State College.

The scientists cited laboratory tests that have shown spores of the dwarf bunt fungus to germinate rapidly when stimulated by light. Field tests have shown that spores on the surface of the soil germinate within a week, while those deeply buried remain dormant. "Thus, when the wheat grower plows down his bunt-infected wheat stubble to prepare his fields for summer fallowing (a common practice) he is in effect burying the bunt spores. Neither shallow summer fallow tillage nor seeding wheat the following fall will disturb the spores," the scientists pointed out.

These spores are then brought up near the surface when wheat stubble is plowed under again in preparation for summer fallowing, which provides ideal circumstances for a destructive outbreak of dwarf bunt every fourth year.

Control of nematodes has increased rose production about 2½ times, it was reported in a paper by S. A. Sher, nematologist with the University of California. Materials used in controlling the Lesion nematode were described as chloropicrin, EDB and D-D. Populations of the nematodes were reduced by 95 to 97%, the paper indicated. The materials were injected into the ground a month before rose cuttings were planted, he said.

Another soil fumigant, Vapam, was discussed in another paper presented by two University of California plant pathologists, George L. Zentmeyer and J. L. Erspamer. Use of this material, the paper said, may be instrumental in controlling a root rot disease of avocado trees that has already taken 3,000 acres of California groves out of production.

The scientists indicated that the chemical shows most promise as a disease eradicant in limited grove areas where trees already have been destroyed or badly damaged by the rot.

This type of treatment would especially apply to the elimination of small infected areas, such as those which often occur when accidentally-infected nursery stock is brought into a grove or when the fungus is introduced by some other means of soil or water movement, they said.

The product was added to irrigation water applied to the infected soil by sprinkler at the rate of 3-4 gallons per square foot. When used as an eradicant, the chemical constituted 200 to 260 parts per million of the water. There was no evidence of the fungus in the normal avocado root zone of the treated soil for as long as a year after treatment, the paper reported.

Oak wilt fungus, a disease that threatens this important forest and shade tree, can develop in logs from infected trees at a wide range of temperatures, according to A. W. Engelhard, plant pathologist with E. I. du Pont de Nemours & Co., who presented a paper at the meeting. He pointed out that this underscores the previously-recognized threat of standing dead trees as a source of disease spread. Such trees or infected logs in the forest, or even fireplace logs stacked in the backyard, may be the means of infecting healthy oaks with the fungus.

Mr. Engelhard said that the oak wilt fungus developed readily in logs both under natural conditions out-of-doors and when stored indoors at temperatures as high as 77° F. The fungus mats and pads also developed readily at 43° F., the lowest temperature tested. It is likely that the disease would thrive and grow at temperatures below this level, he said.

Dr. Karl Maramorosch, of Rockefeller Institute, offered evidence in his paper, to show that two types of virus diseases of corn, known as corn stunt, are related strains. He also told the group that one strain evidently is able to offer immunity to its related virus strain both in the insect which carries the virus strain, and in the corn plants.

His report to the Cincinnati group dealt with an extension of his original research, first made known last year, which showed that in Mexico there are two strains of corn stunt virus: the Mesa Central, which had been described several years ago, and the Rio Grande type, which was known in California and Texas but had never been found in Mexico until Dr. Maramorosch conducted a special survey in that country.

The work also added further confirmation to the concept that a virus disease can affect both a plant and an animal since the leafhopper insects which fed on the corn stunt virus were both infected with the disease and were protected from one strain of it by a process of immunity.

The research reported by Dr. Maramorosch showed that if a corn leafhopper acquired either Mesa Central or Rio Grande corn stunt virus by feeding for one day on a diseased plant, it became infective after two or three weeks and remained infective for life.

Hopes of tomato growers for the speedy research development of a new variety of tomato that will withstand attacks by tobacco mosaic virus disease has been complicated by scientific proof of the existence of at least three strains of the virus, according to two Ohio plant pathologists, John J. McRitchie and Leonard J. Alexander, who identified the three virus strains. They reported the results of their investigations and said that their findings had convinced them that resistance to all strains of the virus are not to be found in domestic tomato breeding materials. They are turning their search for resistance to wild species of tomatoes.

Currently, there is no effective weapon that growers can use against tobacco mosaic virus, they said. It is so infectious on both tobacco and tomatoes that the disease can be carried over from the tobacco field into processed tobacco, and then passed on by workers smoking the infected tobacco and handling tomato seedlings.

"Hard" alfalfa seed — practically impervious to soil moisture — has been made to germinate normally by brief exposure to radio waves, a Washington State College scientist told the APS convention. Plant pathologist Folke Johnson said that hard seeds are a troublesome occurrence in many crops, but especially in alfalfa, they have been a long-time hazard confronting Central Washington growers.

He reported, however, that exposing these hard alfalfa seeds to the vibrating and heating effects of high frequency energy (radio waves) loosened the seed coat so that water would be readily absorbed. Exposure of seed to an electric energy frequency of 27 million cycles per second for just 25 seconds increased germination from 51 to 90%, he said.

In a similar experiment, a 35-second exposure increased alfalfa seed germination from 61 to 92%. The seed sample contained 34% hard seeds before exposure; only 4% after exposure.

Mr. Johnson said that once seed has been treated with high frequency energy, it retains its capacity for high germination after as long as a year in storage.

Scald, a disease common to alfalfa grown in California's hot, dry Imperial Valley, is most apt to develop after irrigation during an especially hot period, two University of California plant pathologists told the APS. The scientists, D. C. Irwin and W. W. Kennedy, said that research has shown that high soil temperature and high soil moisture interact to encourage scald. Their investigations indicate that the temperature of irrigation water must be above 104 to 107° F. to damage alfalfa in the field. They are currently working to determine the degree of soil temperature necessary for scald to develop.

Scald has occurred in the Imperial Valley since alfalfa has been planted there as a commercial crop. It is prevalent during the hot months—June to October—and is capable of spelling quick death for entire plantings. Messrs. Erwin and Kennedy said that scald damage forces alfalfa growers to reseed many fields each fall. In effect, it has resulted in this perennial crop being handled as an annual in the Imperial Valley.

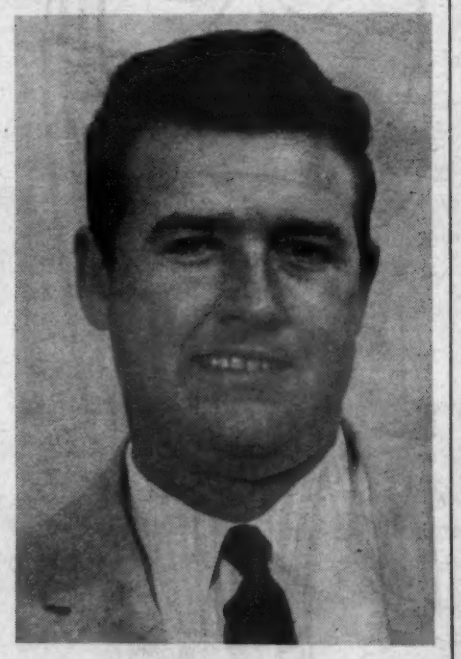
Radishes on Southeastern farms are most likely to reach the market at top quality if they are dipped in a weak solution of Terramycin at the packing plant, according to R. S. Cox, Florida plant pathologist, who presented his paper at the meeting. He said that the dip prevented the development of pitting disease on the surface of radishes.

Discussing his investigations of the disease and the development of the antibiotic dip treatment, Dr. Cox said that the disease is apparently caused by bacteria that destroy surface cells of radishes. Infected radishes become so badly damaged within two to five days after packing as to be practically unmarketable.

Pitting is a disease born of modern marketing methods, Dr. Cox said. When packers started shipping radishes in cellophane or plastic bags as a sales incentive, they also promoted the development of radish pit.

Dr. Cox said that complete control of the disease resulted when radishes were dipped for five minutes before bagging. Water solutions containing just 10 parts of Terramycin per million of water prevented the development of pitting symptoms even when radishes were stored at temperatures as high as 86° F.

J. B. Copeland



Doyle Smith

Grand River Chemical Appoints Two Sales Representatives

TULSA, OKLA.—The appointments of J. B. Copeland and Doyle Smith as sales representatives for the Grand River Chemical Division of Deere & Co., have been announced by John R. Taylor, Jr., sales manager.

Mr. Copeland assumes the position of sales representative in the states of New Mexico, Arizona, West Texas and Southern Colorado. He is a graduate of New Mexico A&M, served as first lieutenant with the U.S. Air Force, and has since been employed in sales work in Las Cruces, New Mexico. In his new position, Mr. Copeland will continue to reside in Las Cruces.

Mr. Smith is located at Port Lavaca, Texas, and represents the company in the Texas Gulf Coast area and the Rio Grande area. He is a recent graduate of Texas A&M, and has since served as assistant county agent in Calhoun, Texas.

Both men will be engaged in the sale of the company's urea nitrogen fertilizer (Vitrea), nitrogen solutions, anhydrous ammonia, and urea feed compound.

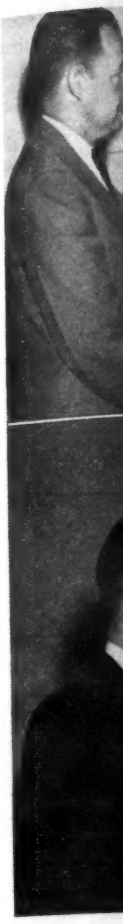
Oregon Fescue Group Takes Note of Progress

PORTLAND, ORE.—First report by the grower-approved fescue commission made early in December shows that Oregon dealers collected assessment on nearly 1,500,000 lb. of seed and launched the commodity group on its self-help campaign of finding new market outlets for this important lawn and turf grass seed production industry.

The commission's first annual report presented at the recent Oregon Seed League meeting outlines an action program aimed at the promotion and protection of the industry for which purpose the new commission was created about a year earlier.

Tom DeArmond, Hubbard, commission chairman, said that cooperation of county agents had already been secured in seeding and growing demonstration fescue lawns to assist home owners.

Oregon grown fescues first gained national recognition during World War II when the grass proved rugged as a turf planting for emergency air landing strips. It is now widely used as a football field turf and is in growing demand as a durable grass for home lawn plantings.



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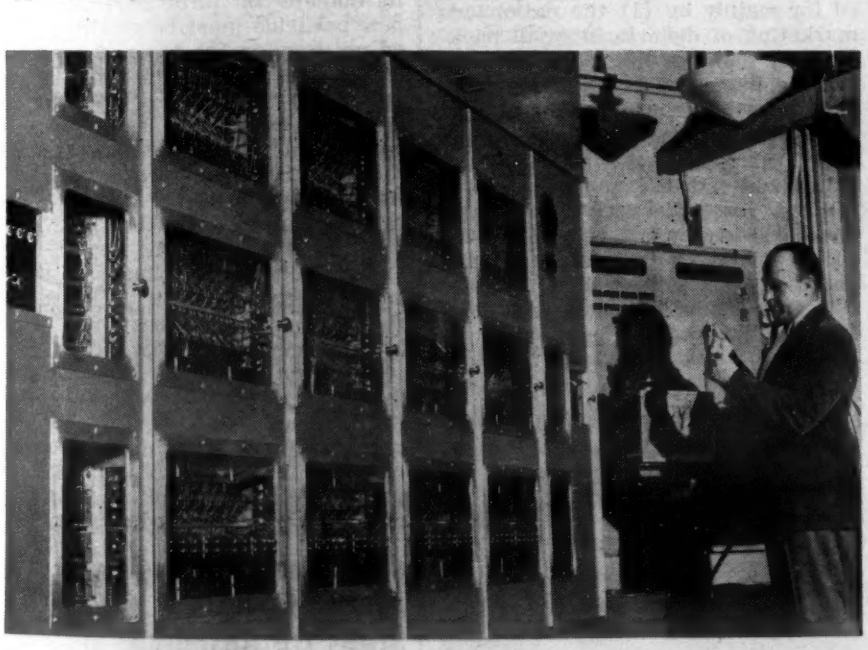
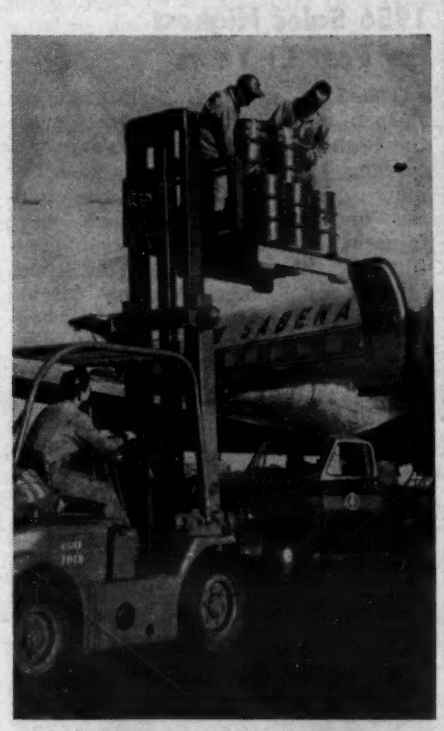
AT NEW JERSEY CONFERENCE—Dr. Leland G. Merrill, Rutgers University extension entomologist, is shown at the right in the top photo pointing to a chart which predicts a severe corn borer year ahead for New Jersey farmers. The prediction was presented at the recent Rutgers pesticide conference for dealers and formulators. Shown with Dr. Merrill, who was conference co-chairman, are, left to right, Henry Gray, Dow Chemical Co.; Robert Kessler, Carbide and Carbon Chemicals Co., and C. E. Wilson, the DuPont Co. In the lower photo Dr. Spencer H. Davis, right, Rutgers extension plant disease specialist and conference co-chairman, discusses the program with J. T. Kangas, left, Albert Sidney Noble advertising agency, and James Willets, of Francis Stokes, tomato canner and breeder. A report of the conference appeared on page 4 of the Dec. 10 issue of Croplife.

NATIONAL AWARD WINNERS—National winners of 4-H field crops awards for 1956, shown with Hugo Riemer, president of Nitrogen Division, Allied Chemical & Dye. The Division is official donor to the field crops program, providing $300 scholarships to six equal national winners, trips to 4-H Club Congress to state winners, and medals to county winners. Pictured are (standing): Otis Young, Jr., Cortland, N.Y.; Milton McDaniel, Brinkman, Okla.; Mr. Riemer; John Lancaster, Glendo, Wyo.; and Harold Toepper, Peotone, Ill. Kneeling are Joe Peine, Greeley, Kansas, and Kenneth McEachern, Hale Center, Texas.



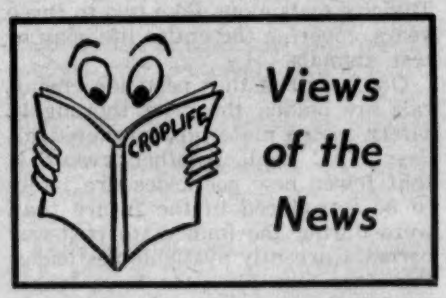
COMPUTES FERTILIZER RESULTS—The Illiac, University of Illinois' gigantic high speed electronic computer is being used to process data from 1956 hybrid corn performance tests, small grain and forage breeding and variety trials, and fertilizer tests. Walter Jacob, at right, professor of agronomy in charge of statistics, estimates that about ten times as much work can be done with this special equipment. The result is more data can be processed and more benefit can be obtained from each experiment handled this way. Yield and performance results of commercial hybrids in the 1956 tests will be published in a bulletin that will be available during Farm and Home Week, January 27-31.

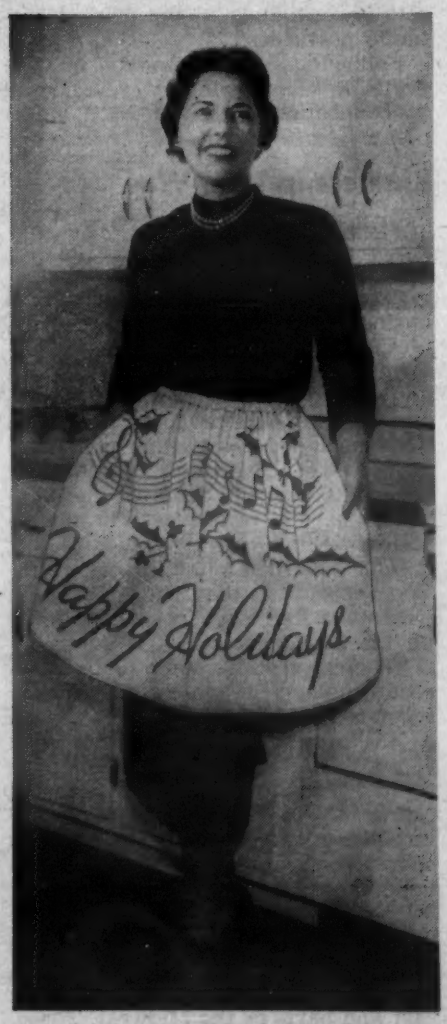
NEW DAVISON BUILDING—Shown above is a drawing of the new office building now being built in Ridgewood, Fla., for the Florida phosphate division, Davison Chemical Co. Division of W. R. Grace & Co. Designed and equipped to house the 65 persons on the administrative, office and engineering staff, the new one-story building will be 170 feet long and 70 feet wide with 10,500 sq. ft. of floor space. Of masonry block construction, the building will be air-conditioned and centrally heated. Wellman Construction and Engineering Co. of Lakeland, Fla., is in charge of construction, which is scheduled to be completed by March, 1957.



PYRETHRUM AIRLIFT—The blocked Suez canal has not stopped shipment of African pyrethrum (PYR), a base for U.S. insecticides. Shown above is the arrival at International Airport, New York, of the first trans-Atlantic flight of PYR extract. The shipment included 1,000 lb. flown the Chimiphar plant at Bukavu, in the heart of Africa on the eastern edge of the Belgian Congo.

A JOLLY PAIR — It's impossible now to determine the reason for the wide smiles, but we do know what was going on. The man at the left is Jack Dreessen, National Agricultural Chemical Assn., Washington, greeting M. P. Jones, entomologist, Federal Extension Service, Washington. The meeting took place at the recent National Grain Sanitation Conference in Kansas City. Both men were speakers on the program.





NEAT HOLIDAY GIFT—This holiday apron is being offered for sale by Chase Bag Co. as a 1956 Christmas holiday gift item. The color scheme consists of Christmas red and green with a touch of blue, all on a white background. The apron has an adjustable waist band with ties of red and white candy cane stripes.

PESTICIDE SALES

(Continued from page 1)

the United States to wipe out disease-carrying flies and mosquitoes.

Exports of pesticide chemicals, which showed a major gain in 1955, slowed somewhat during 1956. First six month figures show exports of 158,608,000 lb. valued at $44,454,000. This represents a drop of 5% in quantity but a 6% increase in value over 1955. Exports to the Caribbean, South America, Asia, Oceania and Africa all increased during the year.

Except for 2,4-D, the output of basic pesticide chemicals in 1956 is well ahead of 1955. Figures for the first 11 months of the crop year show that benzene hexachloride (gamma basis) was up 66%; DDT was up 25%; 2,4,5-T was up 74%, and copper sulfate was up 4%. The drop in 2,4-D production may be due in part to large carryover stocks from the 1955 season.

Research has been broadened by a number of companies to develop new compounds. An increasing proportion of this research is being devoted to testing the new compounds for residues in or on food, and for toxicity. Company estimates indicate it takes four to five years and from $1,200,000 to $1,500,000 to develop a single new pesticide chemical to the marketing stage, NAC said. Approximately 45% of this total goes into making tests to assure the safety of the product. Toxicity tests alone take two to three years, covering the entire life span of test animals.

One result is that pesticide chemicals are among the most thoroughly safety tested materials marketed today, NAC said. Another result is that fewer new pesticides are likely to be introduced in the future than were during the immediate post-war period. Currently available pesticides, therefore, are likely to have longer market lives.

Research is continuing in fields concerned with chemicals to protect crops in storage and transit. Research also is continuing in the field of systemic pesticides.

Following are comments on the pesticide season which were released in connection with the NAC statement.

Business in 1956 Was "Generally Satisfactory," Says Stauffer Executive

"This year's agricultural chemical business has been generally satisfactory," said Dan J. Keating, Stauffer Chemical Co. "Several situations and several events contributed substantially to our progress this year. These included unusual insect infestations, crop conditions, government programs and, of course, developments of our own research laboratories.

"Our field men found insect infestation, excepting the Southwest area which suffered a severe drouth, to be on the high side.

"There were also some unusual insect problems in which the government took an especial interest—such as the program which was launched to eradicate the Mediterranean fruit fly in Florida and grasshoppers in the Midwest. What is significant is the responsiveness the government has shown to the need to cope with such important public problems.

"The prevalence of plant disease was somewhat less than normal. This was coupled with rather serious deciduous fruit crop losses in the Northeast and parts of the Midwest. These, in the main, resulted from early freezes.

"Stauffer Chemical Co. continued this year to expand its comprehensive agricultural chemical research program. Among the new products which research has yielded and which contributed in some degree in this year's sales volume are:

"(1) Vapam, our soil fumigant, is now being manufactured in several of our plants and sold in large volume, both domestically and in several countries abroad. (2) Trithion, our new organic phosphate insecticide, is now being made on a pilot plant scale and is being offered on an experimental sales basis. (3) Captan, one of our recently developed fungicides, is continuing to find new and interesting applications.

"Apart from these compounds, we are now researching a promising pre-emergence herbicide and an entirely new type soluble soil conditioner. We anticipate that they will attain commercial stature in the not distant future.

"We share with many others in our industry the firm conviction that the agricultural chemicals business will soon move into the billion dollar per year category. It is already evident that progressive American farmers are becoming more and more interested in seeking out and utilizing labor-saving and crop improving chemicals. Their attitude, together with the expanded research efforts of both industry and government, ensure agricultural chemicals of a steady and impressive rate of growth."

Shell Chemical Corp. 1956 Sales Highest For Past 11 Years

The 1956 sales of Shell Chemical Corp.'s agricultural chemicals were the highest in the past 11 years, according to a Shell statement. "The increase was mainly due to the opening of new markets which were brought about by the expanded versatility of the products and by an intensive development program carried on in cooperation with state and federal agricultural agencies," the company said.

"Two of the products finished their first full year of sales in 1956—Nemagon soil fumigant and allyl alcohol. Sales of Nemagon soil fumigant, a nematocide that can be applied to many growing plants, increased in a number of regions in the country. The introduction of the nematocide in granular form, which allowed applications to be made with conventional fertilizer equipment, brought a marked increase in sales in the Southwest, particularly for use on cotton. Upward sales trends were also noted in South Carolina (for use on peach trees) and in California (for use on citrus and peach trees and on grapes).

"Sales of allyl alcohol in 1956 exceeded the original sales estimate, and three factors which appeared during the year point to a continuing increase. They are (1) experiments during the year showed that the product has promise as a soil fungicide; (2) the growth in the use of the product as a weed seed killer on vegetable seed beds and in nurseries; (3) the fact that the product is now marketed nationwide in a blend with nematocides.

"Phosdrin insecticide, a new phosphate, was introduced in experimental quantities by Shell during the year. The temporary label accepted by the U.S. Department of Agriculture permitted its trial use on 23 fruit and vegetable crops.

"Phosdrin insecticide was made available to formulators in limited quantities for late summer and fall crops. It is formulated and sold in emulsifiable, dust and granular forms.

"During the year dieldrin widened its versatility as an insect killer. Its new label for agricultural uses, which is pending acceptance by the U.S. Department of Agriculture, lists 71 crops and over 140 insects. During the year it also was extensively applied as a soil treatment for the eradication of the Mediterranean fruit fly in Florida. Applications of dieldrin granules for the control of such soil pests as the Japanese beetle and white fringed beetle increased five fold the past year.

"The increase in the use of dieldrin in and around the home was accounted for mainly by (1) the nationwide marketing of dieldrin in small packages for home and garden sales and (2) the increased use of the insecticide in termite control.

"The new labels accepted by the U.S. Department of Agriculture on aldrin and endrin expanded the uses of both insecticides on agricultural crops. Aldrin may now be used against 80 insects on 77 different crops, and endrin against 46 insects on 12 crops.

"In late 1956, Shell announced plans for a million-dollar expansion of its agricultural research center at Modesto, Cal. Construction is scheduled for completion in the fall of 1957. Six major new buildings will be added to the present group.

"The staff of the laboratory will work in three broad fields—biological research, chemical research and products application."

Velsicol Executive Says Role of Pesticides Growing in Importance

"Insect control is taking its place with soil conservation and crop rotation as a vital need in the production of more food and fibre, and the role of new pesticides developed by private manufacturers is becoming increasingly important," Roger Roth, Velsicol Chemical Corp., said.

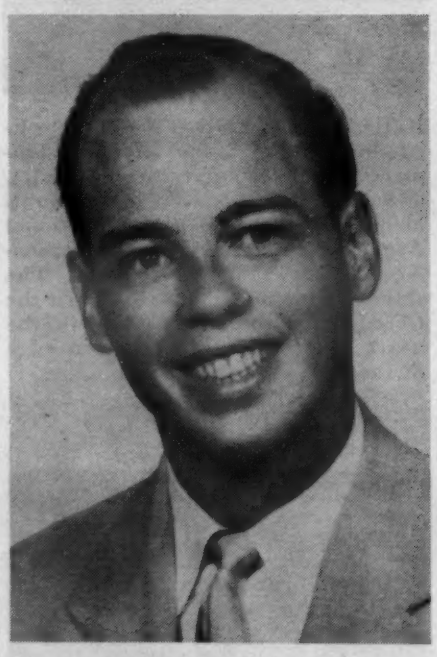
"After the wartime experience with certain types of insect control, it was hoped that man would soon be the master of the thousands of insects that ruin crops, carry disease, and annoy most of the world's population.

"This optimism was justified in certain respects but because some of the varieties of insects developed tolerances to the first chemical insecticides, many problems still existed. The postwar period, however, has seen the development of several new and more effective chemicals for controlling the soil and crop pests that menace American farm production.

"Finding a good way to kill bugs chemically is not such an easy task as might be imagined, and often research proceeds with the same painstaking care and caution as the synthesis of miracle medicines. Some manufacturers place the cost of developing a new pesticide as high as $1½ million.

"Because of the danger of toxicity to humans or farm animals, every new pesticide must be carefully tested not only on the types of insects it is designed to control, but also on laboratory animals and in actual use on the farm. Before it may be sold commercially, it must also undergo special U.S. Department of Agriculture tests to meet the tolerances established under the Miller Bill.

"Coinciding with the development and manufacture of improved pesticides by private industry is the educational job which industry and USDA are undertaking jointly. Growing insect infestations in recent years have made insect control imperative, and its urgency has been further increased by the government's reserve program which makes it highly important for farmers to get the maximum yield from limited acreage."



Charles B. Little

Floyd A. White, Jr.

Vulcan Steel Container Promotes Two in Sales Department

BIRMINGHAM, ALA.—Two appointments in the sales department of Vulcan Steel Container Co., Birmingham, have been announced by Gordon G. Zuck, company president.

Floyd A. White, Jr., was named sales manager of the southeastern region and will have charge of sale of pails and drums and supervise district sales offices and warehouses in Tennessee, Georgia, North and South Carolina, Virginia and Florida.

Charles B. Little was named sales manager of the southwestern region and will be responsible for sales and supervise district offices and warehouses in Louisiana, South Mississippi, Texas, Arkansas and Oklahoma.

Both men are well known throughout the South. They will headquarter at the company's main office and factory in Birmingham, Ala. The company manufactures steel pails and drums in sizes from 1 through 20 gallon for chemical, paint, food and petroleum products.

American Smelting And Refining Co. Steps Up Research

American Smelting and Refining Co., producer of arsenic, stepped up its basic research program for arsenicals in 1956, according to a company statement. Included in this work have been research projects with various land-grant colleges and agricultural experiment stations.

"The use of calcium arsenate as a cotton insecticide increased during 1956 over consumption during the past four years," the company said. "Its use in 1957 is expected to increase again over 1956. Cooperative research programs are under way exploring organic arsenicals as well as the development of a compound with the characteristics of calcium arsenate that can be applied as a liquid insecticide.

"Arsenic, other than being used as an insecticide, is consumed in other fields of agriculture as an additive to poultry and hog feeds, a non-selective herbicide (sodium arsenite), a selective herbicide (disodium methyl arsonate), for chemical de-barking of trees, the de-vining of potatoes, aquatic weed control, as a spray to increase citrus maturity, as a desiccant for cotton, and numerous other uses."

CORN REFERENDUM

(Continued from page 1)

at the rate of 90¢ a bushel times yield per acre, for 15% of their land in corn cultivation.

It is significant to analyze the corn belt vote and the opposition to the administration's program. The defeat of the soil bank corn program was brought about by the intensified National Farmers Union opposition to this deal. In the states where the farmers union was able to concentrate pressure on its cooperative members, the vote for the soil bank program was significantly low. This condition defeated the soil bank program.

There are five states where the cooperatives, led by the farmers union, had significant power to hold down the approved vote for the soil bank to about 61%, whereas 66⅔% of the total state vote was necessary.

From the viewpoint of the fertilizer industry, this unfavorable vote means approximately this:

Most USDA officials now believe that corn is now heading to a dollar per bushel level next year. Back of this is the fact of heavy carryovers from old crops. Also, the outlook for exports and sales from USDA stocks is limited at the statutory minimum price and not more than 200 million bushels can be shipped this present crop year. USDA intends to push sales for export to the exclusion of grain sorghums.

This means that CCC stocks are going to overhang the domestic market and threaten the domestic commodity market price. The entire outlook now is bearish on domestic corn prices.

Discussions with prominent trade officials here last week indicate the fertilizer industry regards the outlook as being not unfavorable to sales of their products. Fertilizer use will promote larger production of corn in the commercial corn belt even at the now announced price support level of $1.36 per bushel for compliers in the commercial corn belt.

As a matter of fact, neither the trade nor USDA officials expect that the commercial corn belt farmers will pay any important attention to the acreage allotment program of not more than 37 million acres. It is thought that these farmers will probably go merrily ahead to make a crop at the lowest possible cost per unit of yield.

This must mean little less than a wise commercial corn belt farm decision to use fertilizer to the optimum on a broader scale than heretofore, to obtain maximum yields at lower costs.

One reliable and responsible official of the fertilizer industry told Croplife that the adequate use of fertilizer in some states can reduce the cost of production of corn from one dollar per bushel, by 20¢. Other comparative figures cited to Croplife by this trade spokesman, indicate that even with dollar corn next year it is possible for the commercial corn belt to make money—if they will go into corn cultivation on the basis of an optimum use of fertilizer.

It is the opinion here within USDA, that feed grain prices are on the skids for the next two years—accelerated by the adverse vote on the soil bank proposal.

Within trade circles, this conclusion is not denied but answered by the recommendation that farmers in the corn and feed grain belt take steps promptly to step up their yields per acre to offset their lower price expectancy with a lower cost per unit of production.

It has also been cited to Croplife that impartial studies from one corn belt state show that after all charges are included, the average cost of production of corn in that state is $1 per bushel.

This college survey report also says—and now most significantly—that if the recommended use of fertilizer materials were generally practiced there, the cost of production of corn per bushel would be lowered by 20¢ a bushel. If, as now expected next year, corn may sell at one dollar per bushel, this seems to indicate that the corn farmer stands to make 20¢ a bushel, if he uses adequate amounts of plant nutrients.

This coming corn crop year is a big test to the sellers of plant foods. It is a year when they will have to provide to the corn belt farmer not only good products, but also an explanation of the price and production problems lying ahead. It must also be remembered that mere selling price is not the complete answer. The full answer is—how much is sold and what it costs to produce what is sold.

Entire Soil Bank Idea Jeopardized by Farmers' Rejection of Program

WASHINGTON, D.C.—Failure of corn belt farmers to approve the base acreage program for the 1957 crop was seen last week as jeopardizing the entire soil program. It was expected to cause considerable direct damage to farmers who have signed up wheat acreage allotment contracts and such cotton farmers who have planned to enter the soil bank program this coming crop year.

USDA officials are conferring on the issue trying to assess damage that the unfavorable corn referendum may have caused.

The issue is primarily concerning farms where corn is grown in combination with wheat or cotton.

Under the provisions of the soil bank, where there are more than one acreage allotment crop, to be eligible for soil bank payments it is necessary for compliance with acreage allotments of those crops on each farm. At this time, there are many farmers who have signed up for wheat soil bank contributions. However, now that the 1957 corn crop is to operate on the old allotment program with a national total acreage allotment of 37 million acres, it is feared at USDA that the wheat farmers will be denied the right to conclude their previously signed soil bank contracts for that crop since they will probably be unable to see their way clear to comply with the available small corn acreage allotment.

Unless they do comply with this corn acreage allotment, their wheat soil bank contracts will be inoperative. The problem is less pressing for cotton than with wheat, since the cotton farmer generally has not considered his corn-cotton equation. Nevertheless it is a matter of major importance to both these crops.

USDA officials see the entire soil bank program in danger of ruin and are trying to find a way out of this dilemma which has resulted from the aggressive campaign by the national farmers union to defeat the corn referendum.

RAIN RUNOFF

COLLEGE STATION, TEXAS — Normally, says G. O. Hoffman, extension range specialist at Texas A&M, enough rain falls on Texas to cover the state to a depth of 30 in. with water. Unfortunately, he adds, only about 14% of this 30 in. is utilized, the other 86% is lost to evaporation or runoff.

Soil Bank Won't Affect Indiana Fertilizer Sales Greatly in 1957, NPFI Executive Says

LAFAYETTE, IND.—The soil bank will have "little effect on fertilizer consumption in Indiana," W. R. Allstetter, vice president of the National Plant Food Institute, predicted at Purdue University during a recent meeting attended by some 210 fertilizer manufacturers and dealers. Mr. Allstetter told the Indiana Fertilizer Conference that he sees a slight reduction in the amount of fertilizer used for wheat, with only six percent of Indiana's farmers "signed up" for the wheat phase of the Soil Bank program.

As for corn, Mr. Allstetter said most of the 1956 participation in the Soil Bank was accidental or windfall participation by farmers who stayed within the corn acreage allotments for price support or other reasons. "I don't expect much more participation in the corn acreage reserve this year," he added.

The NPFI official said the most serious aspect of the acreage reserve program in Indiana is that it is permissible under the program to leave acreage planted in reserve without cover, thus creating a possible erosion hazard.

A debate on the pros and cons of changing fertilizer guarantees from the oxide to the elemental basis highlighted another session of the fertilizer conference.

In favor of the change was Dr. Vincent Sauchelli, chief agronomist for Davison Chemical Co., Div. of W. R. Grace & Co. He said a change to the elemental basis would make fertilizer terminology simpler to understand. However, G. H. Kingsbury, president of Kingsbury & Co., declared that confusion would be greater in the mind of the consumer because of lower numerical guarantees and higher prices. "Confusion would also be created in the mind of the distributor who is already burdened with many other problems," he added.

Dr. Sauchelli said that the cost per unit of plant food would probably remain constant or decrease slightly since the trend on the elemental grades would be toward higher-analysis goods. "This would reduce transportation costs, sale costs and overhead per unit of plant food," according to Dr. Sauchelli.

At a noon luncheon, the fertilizer manufacturers heard a "Banker's View of the Agricultural Future." Ted Axton, president of the Lafayette Savings Bank, forecast a bright future for agriculture despite the current surplus problem. He pointed out that a new intermediate-type loan of three to five years in duration offers a great service to farmers in need of loans.

Four Purdue agronomists spoke on these topics: Dan Wiersma, "Irrigation in Relation to Fertilizer Use"; A. J. Ohlrogge, "The Physics, Chemistry and Biology of Fertilizer Bands"; S. A. Barber, "Crop Response in Relation to Soil Levels of Available Phosphate and Potash," and Helmut Kohnke, "Results to Date with Subsoiling."

The economics of fertilizer use came under discussion by two Purdue agricultural economists—V. W. Ruttan and Earl Kehrberg—and Mr. Ohlrogge. Mr. Ruttan outlined a study of fertilizer marketing now underway at Purdue, and Messrs. Kehrberg and Ohlrogge used graphs to show the difference in corn yields between fertilized and non-fertilized areas. Corn yield response to 4-12-12 equivalent fertilizer, and the difference in early growth of corn on fertilized and non-fertilized areas, was also shown.

Z. H. Beers, executive secretary of the Middle West Soil Improvement Committee, Chicago, said it is up to the fertilizer industry to promote its own products. A. H. Bowers, an agronomist for Swift and Company, spoke on "What's in the Price of Fertilizer?"

Victor to Build New Phosphate Plant in Chicago

CHICAGO — Victor Chemical Works announces that negotiations are in progress to acquire a large industrial site in Chicago where it is proposed to construct an important addition to Victor's midwestern manufacturing facilities.

The plant will be Victor's second in the metropolitan Chicago area and its eighth in the U.S.

Located on the south bank of the Calumet River-Sag Canal waterway, the Victor facility will enjoy all three major forms of transportation for industrial raw materials and finished products, rail, highway, and waterway, and the company anticipates that the new plant and its ability to deliver finished products by barge will open new markets for its products.

Final negotiations will be completed as soon as zoning approval is given by the city of Chicago. The first unit planned is a phosphoric acid plant for foods, metals, petroleum, and liquid plant foods to supply the requirements of the industries and farms of Illinois, Wisconsin, Indiana and Michigan.

The next step that is contemplated is the construction of a phosphate salts plant which will give Victor additional capacity for the phosphates it supplies the detergent and milling industries.

The plants are being designed for large tonnage production with advanced instrument controls. A similar type of plant was erected by the company a few years ago at Morrisville, Pa. It started small, but it is now a major producing point for several of Victor's broad lines of phosphate chemicals.

Concurrently, Victor also is enlarging its elemental phosphorus plant at Mount Pleasant, Tenn., where the company's eighth electric furnace, of 35,000 KW capacity, is being built. This unit is planned to come into production in the last half of 1957 and will add phosphorus capacity to that already available from the seven furnaces at Mount Pleasant; Victor, Florida; and Silver Bow, Mont.

"The use of products based on phosphorus continues to grow as more and more promising developments come out of research laboratories such as Victor's and those of many of the companies we supply," Rothe Weigel, president of the firm, said. "We believe the future of the phosphate industry to be such that we plan a steady increase in our capacity to produce. With three electric furnace plants in strategic locations in the nation, and five phosphate plants, including the new one in Chicago, ranging from the Eastern Seaboard to the Pacific coast, we are in an unusually good competitive position to meet almost any demands our customers may put upon us in the development of their own growth patterns."

Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Western states.

BIG PESTICIDE YEAR . . .

NAC Assn. Reports Excellent Sales in 1956

Activities concerning the pesticide industry are making news just now, from two different angles. Both are good. The first is an official report from the National Agricultural Chemicals Assn. that pesticide sales hit a new high during the 1956 season; and the second is, that the industry is continuing to make great strides toward safer use of its products.

Reaching an estimated $250 million in sales at the basic producers' level, the industry marked an all-time high during the 1956 season. This is some 25% higher than the producers' sales of $200 million in 1955, the NAC Assn. reports.

Of significance, we think, is the fact that this gain was made despite a slight reduction in the quantity of exports over the 1955 figure. The totals for the first six months of 1956 showed the exporting of 158,608,000 lb. of pesticidal materials, valued at $44,454,000. Because of a more firm price structure this year, the value was 6% greater than that of last year even though the tonnage was down 5%.

Sales during the year were boosted by a variety of developments, the NAC says. These included a series of heavy infestations of insects, particularly in the south and southwest, and a greater use of pesticidal chemicals in public health programs throughout the world.

In the U.S., the heaviest outbreaks of pests which made extra sales in 1956, were the Mediterranean fruit fly which threatened the citrus industry in Florida; the spotted alfalfa aphid in the southwest, heavier-than-usual infestations of boll weevil in the south and grasshoppers in the west.

Aside from these more or less emergency operations are seen growing markets for pesticides in fields where volume is likely to keep right on expanding. These areas include the farm market where more farmers are using pest control chemicals to reduce their unit costs of production; the home garden market comprising largely suburban residents who are buying these materials to grow healthy flowers and shrubs and weed-free lawns; and an increased use of insecticides in public health programs where the elimination of disease-carrying insects is a necessity.

A fourth market of growing proportions, is seen in the increasing use of chemicals to control weeds, brush, insects, and turf diseases along the roadsides of the nation. The Federal highway program, plus landscaping activities along state parkways and other roadways, offers a lasting market for many types of chemical products for the control of weeds, insect pests and plant diseases.

It is likely, also, that as more is learned about public health and more funds become available for improving it, the role of insecticides in controlling disease-carrying insects will grow. The world-wide battle against malaria and other diseases which are transmitted by insects is being spurred by the World Health Organization's campaign to "destroy disease-carrying insects."

This program is currently being carried on primarily in Latin America, Africa and Asia. Greater use of pesticides is also being made in public health programs in the U.S. to wipe out disease-carrying flies and mosquitoes.

Tied in with the good season just past and promising times ahead for the pesticide industry, is the stepped-up attention being paid to the matter of safety in the use of pesticides. Long a subject of both interest and concern, safety is now being emphasized and publicized to offset much of the unfavorable material which has appeared in articles and "scare" reports to the public from time to time.

The NAC has just sent out to its members a special kit of materials on pesticide safety for use in preparing company safety programs. Included in the kit is the NAC's "Safety Code" booklet; bulletins issued by the National Safety Council on the use and handling of various chemical products used on the farm; transcripts of tape recordings by a number of health and safety authorities; and bulletins and booklets issued by various companies in the industry, all giving explicit instructions about how to handle different products.

One of the significant services rendered by both the Association and some of its member companies, is a listing of the names, addresses, and telephone numbers of physicians in different locations who can give immediate instructions to local doctors in the event of an emergency with pesticidal chemicals.

Such service is a big step toward protecting users and creating the correct impression that the industry recognizes its responsibilities and is doing everything possible to prevent misuse of its products.

Each year finds the use of pesticides more solidly an integral part of agriculture, and we think it significant that the 1956 record was outstanding in spite of a general decline in the farm economy. The industry's safety program is also a very important running mate to increased use of pesticidal chemicals, for obvious reasons.

It is encouraging to see both phases of the business moving ahead together.

Free Market Best Bet For Entire Economy

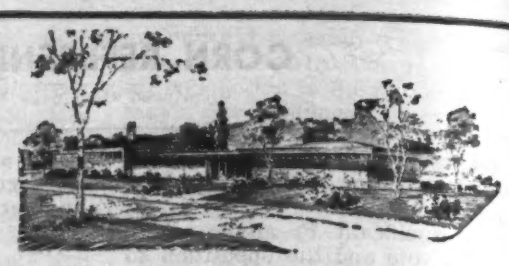
"The only way we can effectively meet that type of propaganda (for government control of industry) and preserve the free market economy which has made this nation great, is by persuading people that it is in their long-term interest to keep the free market economy, no matter how much various pressure groups might gain temporarily by destroying it.

"And what do the facts show? They show first and foremost that the greatest force for social and economic progress that we have is the development of our technology. And what causes that technology to develop? It is the free market economy—the desire for profit.

"And what kills that development? You all know it is the loss of the profit incentive, whether that loss is caused by lack of a free market, or by excessive taxation on profit.

"There is nothing inconsistent here with the public welfare, because the way to profits has always been through filling human needs. This is true whether applied to the humblest employee or the biggest industrialist. The employee profits as he increases his skills and better tools are made available so that he can do more difficult things, and the corporation profits when it provides goods or services that are in high demand.

"The effectiveness of this force of technological development for human progress, both social and economic, has a high public visibility if we will just direct attention that way."—Harold Brayman, Director of Public Relations, E. I. du-Pont de Nemours & Co., Inc.



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MEETING MEMOS

Dec. 27-31—Entomological Society of America, Annual Meeting, Hotel New Yorker, New York City.

1957

Jan. 8-9—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 9-10—Eleventh Annual Wisconsin Insect Control Conference, Sponsored by the Entomology Dept., University of Wisconsin, Loraine Hotel, Madison, Wis.

Jan. 10-11—Annual Pesticide School, North Carolina State College Union, Raleigh.

Jan. 10-11—Mississippi Insect Control Conference, third annual meeting, Mississippi State College, State College, Miss.

Jan. 10-12—Northeastern Weed Control Conference, McAlpin Hotel, New York.

Jan. 15-16—Georgia Plant Food Educational Society, Fourth Annual Meeting, University of Georgia, Athens, Ga., Joint Meeting with Georgia Section, American Society of Agronomy.

Jan. 15-16—Nebraska Fertilizer Institute, Inc., College of Agriculture, University of Nebraska, Lincoln. Howard W. Elm, 917 Trust Bldg., Lincoln, Neb., executive secretary.

Jan. 15-17—North Carolina Pest Control Operators' Short Course, College Union, Raleigh, N.C. Clyde F. Smith, head, Dept. of Entomology.

Jan. 17—Second Annual Western Oregon Fertilizer Dealers Meeting, Withycombe Hall, Oregon State College, Corvallis, Ore.

Jan. 21-25—Pacific Northwest Vegetable Insect Conference and Northwest Cooperative Spray Project, Imperial Hotel, Portland, Ore.

Jan. 22-24—California Weed Conference, Fresno Memorial Auditorium, Fresno, Cal. Conference headquarters, Hotel Californian.

Jan. 23-24—Fourth Annual Pacific Northwest Agricultural Chemicals Industry Conference, Benson Hotel, Portland, Ore., Sponsored by Western Agricultural Chemicals Assn., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.

Jan. 23-25—Southern Weed Conference, Bon Aire Hotel, Augusta, Ga.; Walter K. Porter, Jr., Agricultural Experiment Station, Louisiana State University, Baton Rouge, secretary.

Jan. 24-25—Illinois Custom Spray Operators' School, Illini Union, University of Illinois campus. H. B. Petty, extension entomologist.

Jan. 28-29—National Cotton Council of America, Annual Meeting, St. Louis, Mo.

Jan. 31-Feb. 1-2—Agricultural Aircraft Assn., Annual Convention, Senator Hotel, Sacramento, Cal., Wanda Branstetter, Route 3, Box 1077, Sacramento, Executive Secretary.

Feb. 4-6—Cotton States Branch, Entomological Society of America, Birmingham, Ala. W. G. Eden, secretary-treasurer, Alabama Polytechnic Institute, Auburn, Ala.

Feb. 14-15—Middle West Soil Improvement Committee, Edgewater Beach Hotel, Chicago. Zenas H. Beers, 228 N. LaSalle St., Chicago, executive secretary.

Feb. 19-20—Alabama Pest Control Conference and First Annual Meeting of the Alabama Association for the Control of Economic Pests, Auburn, Ala., W. G. Eden, Alabama Polytechnic Institute, Auburn, secretary-treasurer.

Mar. 4-5—Western Cotton Production Conference for 1957, Westward Ho Hotel, Phoenix, Ariz.

March 6-8—National Agricultural Chemicals Assn., Spring Meeting, Fairmont Hotel, San Francisco, L. S. Hitchner, 1145 19th St. N.W., Washington, D.C., Executive Secretary.

March 11-12—Southwestern Branch, Entomological Society of America, Annual Meeting, Gunter Hotel, San Antonio, Sherman W. Clark, 811 Rusk Ave., Houston 2, Texas, Secretary-Treasurer.

March 27-29—North Central Branch of Entomological Society of America, Annual Meeting, Des Moines, Iowa.

June 9-12—National Plant Food Institute, annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 17-19—Fifteenth Annual Convention of the Association of Southern Feed and Fertilizer Control Officials, Dinkler-Tutwiler Hotel, Birmingham, Ala., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

June 23-26—American Society of Agricultural Engineers, Golden Anniversary meeting, Michigan State University, East Lansing, Mich.

June 26-28—Eighth Annual Fertilizer Conference of the Pacific Northwest, Benson Hotel, Portland, Ore. B. R. Bertramson, Washington State College, Pullman, Wash., chairman.

July 17-19—Southwestern Fertilizer Conference and Grade Hearing, Galvaz Hotel, Galveston, Texas.

Oct. 2-4—Eleventh annual Beltwide Cotton Mechanization Conference, Shreveport, La.

Robert D. Schwartz

Frank G. Hough Adds to Advertising Department

LIBERTYVILLE, ILL. — The appointment of Robert D. Schwartz as an assistant to Madison L. Crawford, advertising manager of the Frank G. Hough Co., has been announced by the company.

Mr. Schwartz, who has recently been associated with Arthur Grossman Advertising, Inc., Chicago, as an account executive, was formerly advertising manager of Deepfreeze Appliance Division of Motor Products Corp.

In his new work with Mr. Hough, he joins Robert Connolly, also assistant to the advertising manager, as part of the firm's over-all expansion activities.

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Borer Numbers High Enough to Cause Trouble in Illinois

URBANA, ILL.—Fewer corn borers are overwintering in Illinois corn fields than a year ago, but numbers are still high enough to be a problem in 1957 if spring weather favors their development. H. B. Petty, entomologist for the University of Illinois College of Agriculture and Natural History Survey, bases this statement on a field survey in about half of the counties over the state.

Mr. Petty points out that borers have shown some southward movement during 1956. The area of Illinois that is most likely to have borer damage in 1957 is the northern two thirds above a line drawn across the state from Mattoon to Carrollton. Below this line there could still be some damage, but it would be more spotted than in the central and northern parts of the state.

Borer populations per 100 stalks of corn in the different sections of the state averaged as follows: Northwest, 208; northeast, 141; east, 144; central, 228; west, 184; west southwest, 132; east southeast, 74, and southern, 19. Mr. Petty says that whenever overwintering borer populations average more than one per stalk they could be a problem the following year.

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